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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
PLANO DIVISION

RAYTHEON COMPANY)	DOCKET NO. 4:07CV109
)	
VS.)	NOVEMBER 19, 2014
)	
)	8:33 A.M.
)	
INDIGO SYSTEMS CORPORATION, ET AL)	PLANO, TEXAS

REPORTER'S TRANSCRIPT OF VOLUME 13
BEFORE THE HONORABLE RICHARD SCHELL,
UNITED STATES DISTRICT JUDGE

1 P R O C E E D I N G S

2 (JURY NOT PRESENT)

3 LAW CLERK: HEAR YE, HEAR YE, HEAR YE, THIS
4 UNITED STATES DISTRICT COURT IN AND FOR THE EASTERN DISTRICT OF
5 TEXAS HOLDING A REGULAR SESSION IN THE CITY OF PLANO IS NOW
6 OPEN ACCORDING TO LAW. GOD SAVE THESE UNITED STATES AND THIS
7 HONORABLE COURT.

8 THE COURT: THANK YOU. YOU MAY BE SEATED.

9 ALL RIGHT. LET'S SEE. MR. RENARD, I THINK YOUR
10 NEXT WITNESS WAS GOING TO BE ROBERT KLINE BY DEPOSITION UNLESS
11 YOU'VE CHANGED THE ORDER.

12 MR. RENARD: YOUR HONOR, I THINK WE'LL START
13 WITH JONATHAN KNAUTH AND THEN GO TO ROBERT KLINE BY DEPOSITION.

14 THE COURT: ALL RIGHT.

15 MR. RENARD: YOUR HONOR, THERE IS ONE POINT THAT
16 I WANTED TO BRING TO THE COURT'S ATTENTION, AND IT GOES BACK TO
17 AN ISSUE THAT WE HAD DISCUSSED PREVIOUSLY WITH RESPECT TO OUR
18 EXPERTS. AS THE COURT KNOWS, THERE WAS THE LIMINE ORDER THAT
19 PROHIBITED OUR EXPERTS FROM OPINING THAT THE TRADE SECRETS IN
20 THEIR ENTIRETY WERE DISCLOSED IN THE PUBLIC DOMAIN. WE
21 UNDERSTAND THAT ORDER, YOUR HONOR, AND WE HAVE HONORED IT.

22 THE PROBLEM IS THIS AS IT CONCERNS MR. KNAUTH,
23 AND THAT IS, DURING THE COURSE OF THE EXAMINATIONS OF MR. BLACK
24 AND MR. HOLCOMBE, AND THEY ARE THE TWO EXPERTS THAT RAYTHEON
25 HAS PUT ON WITH RESPECT TO THE TRADE SECRETS THAT MR. KNAUTH

1 ADDRESSES, THERE ARE A NUMBER OF EXHIBITS THAT WERE INTRODUCED,
2 MANY OF WHICH I INTRODUCED FOR PURPOSES, YOUR HONOR, OF -- OF
3 ATTEMPTING TO DEMONSTRATE OBVIOUSNESS OR REASONABLE
4 ASCERTAINMENT OR COMMON KNOWLEDGE OR USAGE WITHIN THE INDUSTRY,
5 WHICH AS I REMEMBER, YOUR HONOR, WE -- WE REVISITED THIS ISSUE
6 ABOUT THE LIMINE MOTION A WEEK OR SO AGO. I THINK IT WAS
7 BEFORE MR. BLACK AND MR. HOLCOMBE EVEN WENT ON THE STAND. AND
8 I BELIEVE THE COURT'S REFERENCE, WELL, OR ULTIMATE GUIDANCE
9 WAS, WE CANNOT USE OR REFERENCE CERTAIN EXHIBITS IN THE COURSE
10 OF OUR EXAMINATION OF -- OF MR. KNAUTH AND MR. SIMMONS. I
11 GUESS OUR PROBLEM, YOUR HONOR IS --

12 THE COURT: I SAID YOU CANNOT REFERENCE EXHIBITS
13 THAT ARE IN EVIDENCE?

14 MR. RENARD: WELL, I'M NOT SUGGESTING -- I
15 THOUGHT YOUR HONOR SAID WE COULD NOT REFERENCE THE EXHIBITS
16 THAT WERE MENTIONED IN THE KNAUTH AND SIMMONS REPORT THAT
17 SUPPORTED THE PUBLIC DOMAIN -- THEIR PUBLIC DOMAIN CONCLUSIONS,
18 WITH RESPECT TO CERTAIN OF THE TRADE SECRETS. AND, YOUR HONOR,
19 MAYBE -- MAYBE THE COURT IS HITTING UPON MY VERY POINT. I -- I
20 DO NOT WANT TO RUN AFOUL OF -- OF THE COURT'S LIMINE MOTIONS.

21 ON THE OTHER HAND, I THINK IT'S FAIR THAT I BE
22 ABLE TO DISCUSS CERTAIN EVIDENCE THAT IS ALREADY -- CERTAIN
23 DOCUMENTS THAT ARE ALREADY IN EVIDENCE THAT CAME INTO EVIDENCE
24 DURING THE COURSE OF THE EXAMINATIONS AND CROSS-EXAMINATIONS
25 OF -- OF MR. BLACK AND MR. HOLCOMBE, PROVIDED THAT THEY'RE NOT

1 USED TO PROVE PUBLIC DOMAIN BUT THAT GO TO OTHER THINGS LIKE
2 REASONABLE ASCERTAINMENT AND OBVIOUSNESS AND -- AND OTHER
3 THINGS OF THAT NATURE. BECAUSE THERE WAS CERTAINLY NO
4 OBJECTION TO THE INTRODUCTION OF THOSE EXHIBITS IN THE COURSE
5 OF THIS TRIAL, AND TO THE EXTENT, YOUR HONOR, I THINK FAIRNESS
6 DICTATES, I WOULD VERY MUCH LIKE TO REFERENCE THOSE EXHIBITS IF
7 THEY ARE RELEVANT TO THE EXAMINATION OF -- OF MR. KNAUTH.

8 I -- I'LL JUST GIVE YOU AN EXAMPLE, YOUR HONOR.
9 THE COURT HAS HEARD AND SEEN A LOT ABOUT CAT-A-LAC BLACK BEING
10 MENTIONED IN -- IN TEXTBOOKS AND THINGS OF THAT NATURE FOR
11 INFRARED USAGE AND LIGHT. THE PROBLEM IS, A LOT OF THOSE
12 EXHIBITS WERE ALSO MENTIONED IN MR. KNAUTH'S REPORT, AND AS I
13 UNDERSTAND THE COURT'S ORDER, AND PERHAPS I DON'T HAVE IT RIGHT
14 AND THEREFORE REQUEST CLARIFICATION, IT'S MY UNDERSTANDING THAT
15 I CAN'T EVEN MENTION THOSE OR TALK ABOUT THOSE EXHIBITS --

16 THE COURT: ARE YOU TALKING ABOUT THE ORDER I
17 SIGNED GRANTING IN PART PLAINTIFF'S MOTION TO EXCLUDE OR LIMIT
18 THE REBUTTAL REPORT OF JONATHAN KNAUTH?

19 MR. RENARD: YES, YOUR HONOR. AND OUR
20 SUBSEQUENT DISCUSSION WITH THE COURT, I THINK, BEFORE EXPERTS
21 EVER EVEN WENT ON AND -- AND AGAIN, PERHAPS I MISUNDERSTAND
22 YOUR HONOR BUT --

23 THE COURT: WELL --

24 MR. RENARD: BUT I THOUGHT THE COURT MENTIONED
25 AT THE END OF OUR LAST DISCUSSION THAT NEITHER MR. SIMMONS NOR

1 MR. KNAUTH CAN DISCUSS THE DOCUMENTS REFERENCED IN THEIR REPORT
2 WITH RESPECT TO THE PUBLIC DOMAIN CONCLUSIONS WITH -- ON THE
3 TRADE SECRETS THAT THE COURT SUSTAINED THE LIMINE OBJECTION.
4 AND I GUESS, YOUR HONOR, I -- I DO PERCEIVE A LINE BETWEEN
5 THEIR NOT BEING ABLE TO TESTIFY THAT THESE TRADE SECRETS WERE
6 DISCLOSED IN THE PUBLIC DOMAIN, A LINE BETWEEN THAT AND THEIR
7 BEING ABLE TO REFERENCE DOCUMENTS ALREADY IN EVIDENCE FOR
8 PURPOSES OF IT AND PUBLIC DOMAIN CONCLUSIONS.

9 AND -- AND THE LAST THING I WANT TO DO, YOUR
10 HONOR, IS VIOLATE THE COURT ORDER IN FRONT OF THE JURY OR
11 OTHERWISE.

12 THE COURT: OKAY. I APPRECIATE THAT. I MEAN,
13 IF THE TRADE SECRETS OR ASPECTS OF THEM ARE IN THE PUBLIC
14 DOMAIN, I THINK WE'VE HAD TESTIMONY ABOUT THAT.

15 MR. RENARD: YES, YOUR HONOR.

16 THE COURT: I THINK THAT'S BEEN A LARGE PART OF
17 WHAT YOU'VE PRESENTED.

18 MR. RENARD: ABSOLUTELY, YOUR HONOR.

19 THE COURT: NOW, YOU BROUGHT UP MR. SIMMONS
20 AGAIN.

21 MR. RENARD: WELL, I -- YOUR HONOR, I WAS JUST
22 USING THAT BY WAY OF BACKGROUND. OBVIOUSLY, MR. SIMMONS IS
23 DONE, AND THE NEED TO REFERENCE DOCUMENTS IN MR. SIMMONS' WAS
24 LESS IMPORTANT, I THINK, THAN WITH RESPECT TO MR. KNAUTH. AND
25 ALL I'M ASKING, YOUR HONOR, IS THE ABILITY TO -- TO REFER TO

1 DOCUMENTS THAT ARE IN EVIDENCE TO WHICH NO OBJECTION HAS BEEN
2 ASSERTED.

3 THE COURT: LET'S SEE. YOU KNOW, I THINK WHAT I
4 SAID IN THE OPINION ABOUT MR. SIMMONS IS SIMPLY THAT YOU CAN'T
5 PRESENT TESTIMONY THAT STRICTLY BECAUSE THE TRADE SECRETS CAN
6 BE FOUND IN THE PUBLIC DOMAIN, THEY ARE NO LONGER TRADE
7 SECRETS. I THINK THAT'S SOME EVIDENCE.

8 MR. RENARD: WELL -- AND I BELIEVE SO, YOUR
9 HONOR, AS WELL, THAT -- THAT WHAT WE HAVE IS IN EVIDENCE,
10 AND --

11 THE COURT: BUT THERE ARE OTHER FACTORS --

12 MR. RENARD: YES.

13 THE COURT: -- IN DETERMINING WHETHER THERE'S --

14 MR. RENARD: YES.

15 THE COURT: -- TRADE SECRETS.

16 MR. MCDOWELL: AND I THINK THAT'S WHERE THIS ALL
17 GOES. IN YOUR ORDER ON MR. KNAUTH, YOU SAID THAT BECAUSE
18 DOCUMENT -- DOCUMENTATION PROVIDED BY HIM IN HIS REPORT WITH
19 RESPECT TO -- AND THEN IT'S CERTAIN ENUMERATED TRADE SECRETS, 1
20 THROUGH 7, 9, 13, 14, 27, AND 30 ARE IN THE PUBLIC DOMAIN, AND
21 THE DOCUMENTS THAT HE CITED DO NOT ACTUALLY MAKE SUCH A
22 DEMONSTRATION. YOU EXCLUDED HIM FROM BEING ABLE TO USE THOSE.

23 THE COURT: YOU'RE TALKING ABOUT MR. SIMMONS?

24 MR. MCDOWELL: NO, I'M TALKING ABOUT MR. KNAUTH.
25 THAT'S WHAT HE'S -- MR. SIMMONS TESTIFIED, BUT HE WAS RELEASED

1 YESTERDAY.

2 THE COURT: I KNOW THAT. I KNOW THAT. BUT
3 LET'S SEE. NO, THAT'S WHAT I SAID ABOUT MR. SIMMONS.

4 MR. MCDOWELL: CORRECT.

5 THE COURT: I'M LOOKING AT PAGE 8 OF MY ORDER ON
6 MR. SIMMONS. NOW, ARE YOU SAYING I SAID THE SAME THING ABOUT
7 MR. KNAUTH?

8 MR. MCDOWELL: YOU WENT FURTHER WITH MR. KNAUTH,
9 ACTUALLY.

10 THE COURT: OKAY. ALL RIGHT. LET ME TELL YOU,
11 LAST NIGHT, I DID NOT WORK ON THIS CASE. I HAD OTHER THINGS
12 THAT HAVE BUILT UP OVER THE LAST MONTH THAT I HAD TO WORK ON,
13 SO I -- IN ORDER TO TALK TO YOU ABOUT THIS, MR. RENARD, I NEED
14 TO GO RE-READ MY ORDER ON MR. KNAUTH.

15 MR. RENARD: YOUR HONOR, AND I --

16 THE COURT: SO IF THERE'S AN ISSUE, I'M GOING TO
17 HAVE TO GO RE-READ.

18 MR. RENARD: AND I APOLOGIZE FOR BRINGING IT UP
19 THIS MORNING RATHER THAN LAST NIGHT, BUT AS I WAS LOOKING OVER
20 THE MATERIALS AND PREPARING FOR THIS, IT DAWNED ON ME THAT I DO
21 HAVE A FAIRNESS CONCERN OF BEING ABLE TO ADDRESS EVIDENCE THAT
22 HAS ALREADY -- AND POINTS THAT WE BELIEVE HAVE BEGUN TO BE
23 ESTABLISHED IN THIS TRIAL, AND I'M NOT IN ANY WAY TRYING TO
24 CIRCUMVENT AND HAVE THE GENTLEMAN SAY THIS WAS IN THE PUBLIC
25 DOMAIN.

1 THE COURT: I APPRECIATE THAT.

2 MR. MCDOWELL: BEFORE YOU GO BACK, LET ME
3 ADDRESS THAT POINT BECAUSE I THINK THAT'S INACCURATE. AS YOUR
4 HONOR MAY RECALL, WHEN WE RECEIVED BOTH OF THESE DAUBERT
5 ORDERS, WE RAISED THE ISSUE OF WHETHER OR NOT THEY COULD REFER
6 TO THESE TYPES OF PUBLIC DOMAIN DOCUMENTS. WE FILED A MOTION
7 AND ASKED THE COURT TO EXCLUDE THEM, NOT ONLY WITH RESPECT TO
8 THESE WITNESSES BUT WITH OTHER WITNESSES. AND WE HAD A LONG
9 ARGUMENT OVER THAT, AND YOUR HONOR SAID THAT IF MR. RENARD
10 WANTED TO SHOW A MR. BLACK OR SOMEBODY ELSE A DOCUMENT, THESE
11 DAUBERT ORDERS DIDN'T COVER THAT, AND HE COULD SHOW THEM THAT
12 DOCUMENT.

13 NOW, MR. RENARD IS SAYING BECAUSE I SHOWED A
14 DOCUMENT, BECAUSE DEFENDANTS CHOSE TO SHOW A DOCUMENT TO
15 MR. BLACK, HE SHOULD NOW, OUT OF FAIRNESS, BE ABLE TO SHOW IT
16 TO MR. KNAUTH IN VIOLATION OF THE ORDER, AND THAT'S WHERE I
17 THINK THAT'S MIS -- THAT'S MISLEADING IN THAT THE DOCUMENTS
18 THEY CHOSE TO SHOW OTHER WITNESSES BEFORE HAD NO BEARING ON THE
19 DAUBERT ORDER. IT CAN'T HAVE ANY BEARING ON IT TODAY. THE
20 DAUBERT ORDER EXCLUDES THAT, AND IT --

21 MR. RENARD: AND, YOUR HONOR --

22 MR. MCDOWELL: THERE'S NO WAY THAT HE CAN
23 INTRODUCE THAT.

24 THE COURT: I CAN'T EVEN TALK TO YOU ABOUT IT
25 WITHOUT GOING AND RE-READING MY ORDER.

1 MR. RENARD: MY ONLY RESPONSE, YOUR HONOR, IS
2 SOMETHING I THINK THE COURT HAS ALLUDED TO. IT IS ABUNDANTLY
3 EVIDENT FROM THE EXAMINATION OF MR. BLACK AND MR. HOLCOMBE THAT
4 ELEMENTS OF THESE TRADE SECRETS -- WHETHER OR NOT IT'S THE
5 ENTIRETY, THAT ELEMENTS OF THESE TRADE SECRETS WERE -- WERE OUT
6 THERE, AND -- AND THE COURT ALLUDED TO THAT. I MEAN,
7 ABUNDANTLY CLEAR. AND FOR COUNSEL TO SAY, WELL, YOU CAN ASK
8 OUR WITNESSES ABOUT THAT INFORMATION AND MAKE WHATEVER POINTS
9 YOU WANT TO MAKE WITH THEM ABOUT THAT, BUT YOU CAN'T WITH
10 RESPECT TO -- TO THE DEFENDANTS' EXPERTS, YOUR HONOR, THAT
11 REALLY GETS INTO -- AND IT IS A FAIRNESS ISSUE. WE'VE GOT
12 EVIDENCE OUT THERE THAT IS CLEARLY RELEVANT, AND -- AND
13 RAYTHEON'S SAYING --

14 THE COURT: I CAN'T DISAGREE WITH WHAT YOU'RE
15 SAYING RIGHT NOW, BUT I DON'T KNOW UNTIL I RE-READ MY ORDER.

16 MR. SIEBMAN: THANK YOU, YOUR HONOR.

17 THE COURT: SO, MR. SERRATO, WOULD YOU TELL THE
18 JURY THAT I'M TAKING UP AN ISSUE AND I'LL BE WITH THEM AS SOON
19 AS I CAN.

20 COURT SECURITY OFFICER: YES, SIR.

21 THE COURT: OKAY. WE'LL RECESS WHILE I GO
22 RE-READ THIS. THANK YOU.

23 COURT SECURITY OFFICER: ALL RISE.

24 (A BREAK WAS TAKEN AT 8:44 A.M.)

25 (JURY NOT PRESENT)

1 COURT SECURITY OFFICER: ALL RISE.

2 THE COURT: THANK YOU. PLEASE TAKE YOUR SEATS.

3 ALL RIGHT. I WENT BACK AND LOOKED AT MY ORDER
4 ON ART SIMMONS, AND THIS IS DOCUMENT 442, AND WHAT I SAID ABOUT
5 MR. SIMMONS IS THAT, FIRST OF ALL, HE'S QUALIFIED TO TESTIFY,
6 BASED ON HIS EXPERIENCE AND TRAINING AND SO FORTH. AND THEN
7 I -- I ADDRESSED THE ARGUMENTS THAT HAD BEEN MADE BY THE
8 PLAINTIFF SEEKING TO EXCLUDE HIS OPINIONS. I SAID THAT HE --
9 HIS CONCLUSIONS THAT CERTAIN TRADE SECRETS WERE READILY
10 ASCERTAINABLE THROUGH REVERSE ENGINEERING IS RELEVANT AND
11 ADMISSIBLE. HE COULDN'T TESTIFY THAT RAYTHEON DID NOT ACTUALLY
12 OWN THE TRADE SECRETS THEY ASSERT.

13 I SAID THAT HE COULD TESTIFY ABOUT TRADE SECRET
14 23 AND HIS CONCLUSION THAT THE DEFENDANTS DID NOT INFRINGE THAT
15 TRADE SECRET. I FURTHER STATED IN THAT ORDER THAT MR. SIMMONS
16 COULD OFFER THE OPINION THAT TRADE SECRETS 20, 22, AND 25, AS
17 DESCRIBED, DO NOT DIFFER MEANINGFULLY FROM INFORMATION THAT IS
18 WIDELY KNOWN IN THE INDUSTRY. I SAID THAT HE COULD TESTIFY
19 THAT THE LACK OF DOCUMENTATION SUPPORTING ANY TRADE SECRET IS
20 RELEVANT TO THE VALUE OF THE TRADE SECRET.

21 I ADDRESSED THE ARGUMENT BY THE PLAINTIFF THAT
22 MR. SIMMONS OPINED THAT BECAUSE ELEMENTS OF THE TRADE SECRETS
23 COULD BE FOUND IN THE PUBLIC DOMAIN, THEY CANNOT BE CONSIDERED
24 A TRADE SECRET. WELL, THAT'S CONTRARY TO THE FIFTH CIRCUIT
25 OPINION THAT I LOOKED AT. METALLURGICAL INDUSTRIES VERSUS

1 FOURTEK FOR THE FIFTH CIRCUIT SAID, "A TRADE SECRET CAN EXIST
2 IN A COMBINATION OF CHARACTERISTICS AND COMPONENTS, EACH OF
3 WHICH BY ITSELF IS IN THE PUBLIC DOMAIN, BUT THE UNIFIED
4 PROCESS, DESIGN, AND OPERATION OF WHICH IN UNIQUE COMBINATION
5 AFFORDS A COMPETITIVE ADVANTAGE AND IS A PROTECTABLE SECRET."

6 AND I SAID THAT MR. SIMMONS DIDN'T -- DIDN'T
7 REACH THE CONCLUSION IN ANY EVENT THAT SIMPLY BECAUSE ELEMENTS
8 OF THE TRADE SECRETS CAN BE FOUND IN THE PUBLIC DOMAIN, THEY
9 ARE NOT TRADE SECRETS. SO, MR. SIMMONS' OPINION DIDN'T RUN
10 AFOUL OF THAT FIFTH CIRCUIT LAW ANYWAY.

11 I SAID THAT MR. SIMMONS' OPINION THAT CERTAIN
12 TRADE SECRETS CONSIST OF INFORMATION THAT WAS IN THE PUBLIC
13 DOMAIN AT THE TIME OF THE MISAPPROPRIATION IS RELEVANT. HE CAN
14 TESTIFY TO THAT. HE SIMPLY COULDN'T DRAW THE ULTIMATE
15 CONCLUSION THAT BECAUSE CERTAIN ELEMENTS ARE SCATTERED HERE AND
16 THERE IN THE PUBLIC DOMAIN THEY ARE AUTOMATICALLY NOT TRADE
17 SECRETS. THAT -- I THINK THAT'S WHAT I SAID. AND I THINK
18 THAT'S CONSISTENT WITH THE FIFTH CIRCUIT'S OPINION IN
19 METALLURGICAL INDUSTRIES.

20 AND FINALLY, ON MR. SIMMONS, I ADDRESSED THE
21 PLAINTIFF'S ARGUMENT ABOUT HIS CONCLUSIONS ABOUT TRADE SECRETS
22 16, 17, 18, AND 23 WITH RESPECT TO WHAT'S IN THE PUBLIC DOMAIN
23 ABOUT THOSE TRADE SECRETS, AND I FOUND THAT MR. SIMMONS STATED
24 IN HIS DEPOSITION THAT THE DOCUMENTS HE CITED IN HIS REPORT DO
25 NOT ACTUALLY SUPPORT THE CONCLUSION THAT RAYTHEON'S CLAIMED

1 TRADE SECRETS EXIST IN THE PUBLIC DOMAIN. AND SO, I SAID, IN
2 MY ORDER, THAT BECAUSE THE DOCUMENT -- DOCUMENTATION PROVIDED
3 BY MR. SIMMONS TO SUPPORT HIS CONCLUSIONS THAT TRADE SECRETS
4 16, 17, 18, AND 23 ARE IN THE PUBLIC DOMAIN DO NOT ACTUALLY
5 MAKE SUCH A DEMONSTRATION, THEN HIS PUBLIC DOMAIN OPINIONS WITH
6 REGARD TO THOSE TRADE SECRETS SHALL BE EXCLUDED.

7 NOW, AS FAR AS JONATHAN KNAUTH, I ADDRESSED THE
8 PLAINTIFF'S ARGUMENTS ABOUT CERTAIN TRADE SECRETS. AGAIN, 16,
9 17, 18, AND THEN 20 THROUGH 25, THERE WERE NINE OF THEM IN THIS
10 FIRST PART OF THE ORDER THAT I SIGNED. THE COURT FOUND THAT
11 THERE WAS NO BASIS FOR MR. KNAUTH'S OPINION WITH RESPECT TO
12 TRADE SECRETS 16, 17, 18, AND 20 THROUGH 25, AND I GRANTED THE
13 PLAINTIFF'S MOTION TO EXCLUDE HIS OPINIONS ON THAT. I LOOKED
14 AT THE BRIEFING. I -- THE ONLY RESPONSE FROM THE DEFENDANTS --
15 WELL, I DON'T THINK THERE WAS A RESPONSE TO THIS ARGUMENT ABOUT
16 THOSE NINE TRADE SECRETS, SO I WENT WITH THE PLAINTIFF ON THAT.

17 AS FAR AS MR. KNAUTH'S QUALIFICATIONS ARE
18 CONCERNED, I FOUND HE IS QUALIFIED. HE HAS EXPERIENCE IN THE
19 FIELD OF INFRARED TECHNOLOGY, AND THE REAL HEART OF DAUBERT IS
20 RELEVANCE AND RELIABILITY. THERE SIMPLY HAS TO BE SOME
21 REASONABLE INDICATION OF QUALIFICATIONS, AND THERE CERTAINLY IS
22 WITH RESPECT TO MR. KNAUTH.

23 THERE WERE A NUMBER OF ARGUMENTS MADE BY THE
24 PLAINTIFF REGARDING WHETHER MR. KNAUTH -- IS IT DR. KNAUTH OR
25 MR. KNAUTH?

1 MR. RENARD: MR. KNAUTH, YOUR HONOR.

2 THE COURT: -- MR. KNAUTH HAD OFFERED LEGAL
3 OPINIONS IN HIS REPORT. I SAID THAT MR. KNAUTH'S CONCLUSIONS
4 THAT CERTAIN TRADE SECRETS WERE READILY ASCERTAINABLE THROUGH
5 REVERSE ENGINEERING IS RELEVANT. I SAID HE CAN'T OFFER AN
6 OPINION THAT THE PLAINTIFF DOESN'T OWN THE TRADE SECRETS IT
7 ASSERTS JUST BECAUSE THEY'RE SUBJECT TO SOME SORT OF
8 INDEPENDENT DISCOVERY. AS A MATTER OF FACT, IN CALIFORNIA,
9 APPARENTLY INFORMATION CAN BE A TRADE SECRET EVEN THOUGH IT IS
10 READILY ASCERTAINABLE SO LONG AS IT HAS NOT YET BEEN
11 ASCERTAINED BY OTHERS IN THE INDUSTRY.

12 I SAID THAT IT IS PERMISSIBLE FOR MR. KNAUTH TO
13 OPINE THAT CERTAIN INFORMATION WAS IN THE PUBLIC DOMAIN; IS
14 THAT WHAT YOU WERE ASKING ABOUT?

15 MR. RENARD: WELL, YES, YOUR HONOR. WITH --
16 COUPLE THINGS, YOUR HONOR, AND YOU HIT UPON ONE, THE STATEMENT,
17 SO LONG AS NOT YET BEEN ASCERTAINED BY OTHERS IN THE INDUSTRY
18 AND ALSO THE FACT THAT THERE ARE CERTAIN ITEMS OF INFORMATION
19 RELEVANT TO THE ULTIMATE INQUIRY OF WHETHER THE ALLEGED TRADE
20 SECRET IS A TRADE SECRET THAT, I BELIEVE, MR. KNAUTH CAN TALK
21 TO PROVIDED THAT HE JUST DOESN'T COME TO THE ULTIMATE
22 CONCLUSION THAT THIS TRADE SECRET WAS IN THE PUBLIC DOMAIN.
23 THAT'S WHAT WE UNDERSTOOD, YOUR HONOR --

24 THE COURT: YES.

25 MR. RENARD: -- BUT ANYTHING DEALING WITH, WELL,

1 THIS WAS IN THE PUBLIC DOMAIN AND THIS IS IN THE PUBLIC DOMAIN,
2 IF THE JURY WANTED TO, SAY, WELL, YOU KNOW, DRAW THEIR
3 CONCLUSION IN PUTTING THEM TOGETHER THEN AS AN OBVIOUS STEP OR
4 A NON-INNOVATIVE STEP, THAT WOULD BE FINE. THAT'S WHAT WE
5 UNDERSTOOD THE ORDER TO BE, RATHER THAN A, YOU CAN'T TALK ABOUT
6 CERTAIN EXHIBITS OR DOCUMENTS FOR ANY REASON, AND THAT WAS MY
7 CONCERN, THAT WE WOULD LIKE TO TALK ABOUT THOSE DOCUMENTS.

8 THE COURT: I AGREE WITH YOU.

9 MR. MCDOWELL: YOUR HONOR --

10 THE COURT: LET ME KEEP GOING THROUGH THE ORDER
11 HERE, AND THEN I'LL HEAR FROM YOU.

12 I ADDRESSED SIX ARGUMENTS ABOUT MR. KNAUTH. ONE
13 WAS IF HE HAD IMPERMISSIBLY CONCLUDED THE PLAINTIFF COULD NOT
14 PROVE ITS CASE BY CIRCUMSTANTIAL EVIDENCE -- I DON'T KNOW IF HE
15 MADE THAT OPINION OR NOT, BUT OF COURSE THAT -- THAT'S NOT
16 CORRECT. YOU CAN PROVE A CASE THROUGH CIRCUMSTANTIAL EVIDENCE.
17 AND I'M NOT SAYING HE EVEN DREW THAT CONCLUSION.

18 I SAID THE -- THAT MR. KNAUTH COULD OFFER THE
19 OPINION THAT TRADE SECRETS 12 AND 29 INVOLVED TECHNOLOGY THAT
20 IS COMMONLY AVAILABLE AND WAS PROVIDED TO THE DEFENDANTS BY
21 THIRD-PARTY VENDORS. HE CAN'T DRAW THE ULTIMATE CONCLUSION
22 THAT 12 AND 29 ARE NOT ENTITLED TO PROTECTION JUST BECAUSE THE
23 DEFENDANTS OBTAINED THAT TECHNOLOGY FROM THIRD-PARTY VENDORS.
24 BUT HE COULD SAY THAT IT'S COMMONLY AVAILABLE, THE TECHNOLOGY,
25 THAT IS.

1 AND I DID SAY THIS, MR. RENARD. BECAUSE THE
2 DOCUMENTATION PROVIDED BY MR. KNAUTH TO SUPPORT HIS CONCLUSIONS
3 THAT -- ABOUT 12 TRADE SECRETS, 1 THROUGH 7, 9, 13, AND 14 AND
4 27 AND 30 ARE IN THE PUBLIC DOMAIN, BECAUSE THE DOCUMENTATION
5 THAT HE PROVIDED TO SUPPORT HIS CONCLUSIONS THAT THOSE TRADE
6 SECRETS ARE IN THE PUBLIC DOMAIN -- I'M SORRY. BECAUSE THE
7 DOCUMENTATION DOES NOT ACTUALLY DEMONSTRATE THAT, THEN HIS
8 PUBLIC DOMAIN EXPERT OPINION WITH REGARD TO THOSE TRADE SECRETS
9 IS EXCLUDED.

10 MR. RENARD: YES, YOUR HONOR, AND -- AND THAT IS
11 UNDERSTOOD.

12 THE COURT: OKAY.

13 MR. RENARD: MINE IS MORE OF A -- IF THOSE
14 DOCUMENTS RELATE TO OTHER ASPECTS, LIKE REASONABLE,
15 ASCERTAINABLE, OBVIOUSNESS, AND THINGS OF THAT NATURE OR
16 ALLOWING TO JURY TO SEE THAT TWO THINGS MAY BE OUT THERE, AND
17 WHETHER PUTTING THEM TOGETHER IS AN INNOVATIVE STEP, THAT'S
18 WHAT WE'D LIKE TO DO, YOUR HONOR. DEALING WITH DOCUMENTS THAT
19 ARE ALREADY IN EVIDENCE.

20 THE COURT: DOCUMENTS THAT ARE IN EVIDENCE?

21 MR. RENARD: YES, YOUR HONOR.

22 THE COURT: OKAY. MR. MCDOWELL?

23 MR. MCDOWELL: WELL, YOU HIT -- YOU HIT DIRECTLY
24 ON THE IMPORTANT POINT, AND -- AND I THINK IT'S IMPORTANT TO
25 HEAR WHAT MR. RENARD'S SAYING. HE SAID TWO DIFFERENT THINGS

1 THERE. YOUR HONOR'S ORDER SAID THAT BECAUSE THE DOCUMENTATION
2 HE PROVIDED -- AND WE KNOW MR. RENARD ISN'T ANTICIPATING HAVING
3 TO -- MR. KNAUTH TALK ABOUT DOCUMENTS THAT HE NEVER DISCLOSED
4 BECAUSE THAT WOULD BE BEYOND HIS EXPERT REPORT. SO, WE KNOW
5 THAT, FIRST, WE HAVE THE UNIVERSE OF THE EXPERT REPORT. WE
6 PROVIDED DOCUMENTS IN THAT EXPERT REPORT THAT HE WAS GOING TO
7 RELY ON. AND YOUR HONOR FOUND THAT THOSE DOCUMENTS DO NOT MAKE
8 THE DEMONSTRATION WITH REGARD TO PUBLIC DOMAIN.

9 SO, TO ALLOW MR. RENARD NOW TO -- TO -- THROUGH
10 MR. BLACK OR SOMEBODY ASK HIM ABOUT A DOCUMENT THAT WASN'T PART
11 OF THE REPORT AND RUN IT UP IN FRONT OF DR. KNAUTH AND SAY,
12 NOW, THIS ASPECT IS -- IS IN THE PUBLIC DOMAIN, THAT WOULD BE A
13 DIRECT VIOLATION, AND -- AND ACTUALLY AN EFFORT TO POTENTIALLY
14 CIRCUMVENT YOUR HONOR'S ORDER WHERE YOU SAID, MR. KNAUTH'S
15 PUBLIC DOMAIN EXPERT OPINIONS. THE ULTIMATE CONCLUSION, THE
16 SUB PARTS, HIS OPINIONS WITH REGARD TO THOSE TRADE SECRETS ARE
17 EXCLUDED. THEY WERE EXCLUDED BECAUSE THE DOCUMENTS DIDN'T
18 SUPPORT IT. YOU CAN'T NOW RUN ANOTHER DOCUMENT UP THAT
19 MR. RENARD SHOWED SOME OTHER WITNESSES AND, BUT WHAT ABOUT THIS
20 ONE, BECAUSE THAT'S NOT PART OF THE DISCLOSURE.

21 THE COURT: OKAY.

22 MR. MCDOWELL: YOU CAN'T USE THOSE DOCUMENTS
23 BECAUSE THEY DON'T SHOW THEM.

24 THE COURT: I SEE YOUR ARGUMENT.

25 MR. RENARD: YOUR HONOR, AND HERE'S THE PROBLEM,

1 AND I KEEP HAVING MY POSITION MISCHARACTERIZED. LET ME TELL
2 THE COURT WHAT MY POSITION IS.

3 THE COURT: OKAY.

4 MR. RENARD: THERE ARE DOCUMENTS THAT ARE IN
5 EVIDENCE THAT HAVE BEEN DISCUSSED AT LENGTH WITH MR. BLACK AND
6 MR. HOLCOMBE THAT HAVE BEEN IDENTIFIED BY MR. KNAUTH. MY
7 PURPOSE IS NOT TO HAVE MR. KNAUTH SAY, THEREFORE, THE TRADE
8 SECRET WAS IN THE PUBLIC DOMAIN. BUT, YOUR HONOR, LET ME GIVE
9 YOU A FOR INSTANCE, AND THE COURT HAS HEARD A LOT ABOUT THIS.
10 CAT-A-LAC BLACK. CAT-A-LAC BLACK PAINT, WHICH -- AND THESE
11 REFERENCES WERE IN MR. --

12 THE COURT: ARE WE TALKING ABOUT THE 12 TRADE
13 SECRETS THAT I ADDRESSED?

14 MR. RENARD: YES, YOUR HONOR. THIS WOULD BE --

15 MR. MCDOWELL: IT'S NOT INCLUDED IN THAT LIST,
16 YOUR HONOR.

17 MR. RENARD: YES, IT IS. IT'S PART OF NUMBER 7.
18 CAT-A-LAC BLACK IS PART OF NUMBER 7. AND --

19 MR. MCDOWELL: CAT-A-LAC BLACK IS TRADE SECRET
20 NUMBER 10, MR. RENARD.

21 MR. RENARD: COUNSEL, CAT-A-LAC BLACK WAS PART
22 OF NUMBER 7. YOU HAVE THREE SUBPARTS TO NUMBER 7. IT'S A
23 BLACK EPOXY, IT'S A COLD SHIELD RING, AND IT'S AN INSB-FILLED
24 ADHESIVE.

25 BUT IN ANY EVENT, YOUR HONOR, LET'S TALK ABOUT

1 THE MECHANICAL ISOLATION BETWEEN THE PLATFORM AND THE
2 MOTHERBOARD, NUMBER 5. NOW, THERE HAS BEEN TESTIMONY OF A
3 PATENT DEMONSTRATING THE NEED FOR A MECHANICAL ISOLATION,
4 WHETHER OR NOT THAT DISCLOSES THE ENTIRETY OF THE TRADE
5 SECRET -- AND THAT'S NOT THE POINT -- THE FACT THAT THE NEED
6 FOR MECHANICAL ISOLATION HAS BEEN IDENTIFIED IN A PATENT IS
7 SOMETHING I DISCUSSED WITH MR. HOLCOMBE AND MR. BLACK.

8 IT SEEMS, YOUR HONOR, THAT THEIR POSITION IS,
9 OH, YES, YOU HAD FREE REIN TO MAKE WHATEVER POINT YOU WANTED TO
10 MAKE WITH MR. BLACK AND MR. HOLCOMBE, BUT WHEN IT COMES TO
11 ASKING YOUR OWN WITNESS THE IMPLICATIONS OF THAT, NOT FOR
12 PUBLIC DOMAIN BUT FOR PURPOSES OF OBVIOUSNESS AND REASONABLE,
13 ASCERTAINABLE, HE CAN'T.

14 I'M NOT SAYING THAT MR. KNAUTH IS GOING TO COME
15 UP AND SAY, THIS TRADE SECRET IN ITS ENTIRETY IS DISCLOSED IN
16 THE PUBLIC DOMAIN, BUT IT'S IMPORTANT TO ALLOW HIM TO SAY WHAT
17 WAS OUT THERE, WHAT WAS OUT THERE THAT RELATES IN SOME WAY TO
18 THIS TRADE SECRET, BECAUSE YOUR HONOR, I -- I USED THAT SAME
19 EXAMPLE, THE BITS AND PIECES, AND THE COURT POINTED THAT OUT, I
20 THINK, IN -- IN THE OPINION WITH MR. KNAUTH, DOCUMENT 755, IT
21 IS PERMISSIBLE FOR KNAUTH TO OPINE THAT CERTAIN INFORMATION WAS
22 IN THE PUBLIC DOMAIN AND IS RELEVANT TO THE INQUIRY, NOT AN
23 ULTIMATE OPINION THAT THIS IS -- THIS IS A SLAM DUNK WINNER
24 BECAUSE THE ENTIRE TRADE SECRET HAS BEEN DISCLOSED, BUT HE
25 OUGHT TO BE ABLE TO OPINE THAT CERTAIN INFORMATION WAS OUT

1 THERE AND IT'S RELEVANT.

2 FOR INSTANCE, YOUR HONOR, THE -- THE NOTION
3 OF -- AND THIS, AGAIN, IS PART OF NUMBER 7, THE NOTION THAT
4 HAVING A BLACK INTERIOR COLDSHIELD -- MR. KNAUTH ACTUALLY GOT A
5 PATENT SAYING NOT CAT-A-LAC BLACK PAINT, BUT THE NEED TO HAVE A
6 BLACK INTERIOR COLDSHIELD ON AN INFRARED DETECTOR. NOW, THAT'S
7 AN INFORMATIVE STEP FOR THE JURY TO SAY, WELL, HOW MUCH MORE
8 NOVELTY OR INNOVATION IS THERE TO SPECIFY A -- A BLACK PAINT, A
9 SPECIFIC BLACK PAINT, WHEN IT'S ALREADY KNOWN THAT -- IN THE
10 PUBLIC DOMAIN THAT YOU OUGHT TO HAVE A BLACK PAINTED COATING OF
11 SOME SORT IN A COLDSHIELD. IT'S JUST THOSE STEPS, YOUR HONOR.

12 AND MY PROBLEM IS, RAYTHEON IS SAYING THAT YOU
13 COULD USE A BODY OF INFORMATION AND MAKE WHATEVER POINTS YOU
14 WANT TO MAKE WITH RAYTHEON'S EXPERTS, BUT WE CAN'T HAVE OUR
15 EXPERT, WHO'S DEALING WITH THESE SAME TRADE SECRETS, COME IN
16 AND JUST TIE TWO AND TWO TOGETHER AND TALK ABOUT THE EVIDENCE
17 THAT'S ALREADY IN THE RECORD, PROVIDED THAT HE DOESN'T SAY,
18 THIS TRADE SECRET IS IN THE PUBLIC DOMAIN, WHICH WE UNDERSTOOD
19 WAS YOUR HONOR'S ORDER THAT HE CAN'T SAY THAT BECAUSE IN ITS
20 ENTIRETY IT HASN'T BEEN DISCLOSED BY VIRTUE OF THESE
21 REFERENCES.

22 THE COURT: WELL, I THINK THE ARGUMENT BY
23 MR. MCDOWELL IS THAT MR. KNAUTH MADE HIS DISCLOSURES IN HIS
24 REPORT. HE DISCLOSED THE DOCUMENTS HE RELIED UPON. I FOUND
25 THAT THEY DIDN'T SUPPORT HIS CONCLUSION THAT THESE TRADE

1 SECRETS ARE IN THE PUBLIC DOMAIN. NOW, IT SOUNDS LIKE YOU WANT
2 TO ASK HIM ABOUT OTHER DOCUMENTS THAT MAYBE HE DIDN'T TALK
3 ABOUT IN HIS REPORT OR MAYBE HE DID.

4 MR. RENARD: BUT FOR PURPOSES, YOUR HONOR, OTHER
5 THAN SHOWING THE TRADE SECRET WAS IN THE PUBLIC DOMAIN.

6 THE COURT: WELL, I THOUGHT -- BUT THAT'S WHAT
7 I'M HEARING YOU SAY.

8 MR. RENARD: OBVIOUSNESS, REASONABLE
9 ASCERTAINABILITY.

10 THE COURT: WHAT ARE THESE OTHER DOCUMENTS? ARE
11 THEY PATENTS? ARE THEY TREATISES?

12 MR. RENARD: YOUR HONOR, YES, IT'S THE
13 INFORMATION THAT I DEALT WITH WITH MR. --

14 THE COURT: WELL, THAT'S PUBLIC DOMAIN.

15 MR. RENARD: YES, YOUR HONOR, IT'S INFORMATION
16 IN THE PUBLIC DOMAIN, BUT THAT'S DIFFERENT THAN SAYING,
17 THEREFORE, THE TRADE SECRET IN ITS ENTIRETY WAS IN THE PUBLIC
18 DOMAIN.

19 THE COURT: WELL, BUT YOU'RE DRAWING THE SAME
20 CONCLUSION, AREN'T YOU? IF THE DOCUMENT IS IN THE PUBLIC
21 DOMAIN, YOU WANT TO ARGUE TO THE JURY THAT IT'S ALREADY OUT
22 THERE AND IS KNOWN TO EVERYONE.

23 MR. RENARD: YOUR HONOR, I GUESS I COME BACK TO
24 THIS EXAMPLE. THE BOTTLE OF WATER BEING -- IF THE TRADE SECRET
25 IS THE BOTTLE OF WATER WELDED TO A GLASS CASE, AND IF WE SAY,

1 YOU KNOW, THERE'S -- THERE'S PUBLIC DOMAIN INFORMATION ABOUT
2 BOTTLED WATER AND THERE'S PUBLIC DOMAIN INFORMATION ABOUT A
3 GLASS CASE, AND THEREFORE, IT'S AN OBVIOUS STEP -- IT'S NOT
4 SAYING THAT THE GLASS CASE CONNECTED TO THE BOTTLE OF WATER IS
5 IN THE PUBLIC DOMAIN, BUT THE PIECES THAT ARE RELEVANT TO THE
6 INQUIRY OF WHETHER YOU HAVE A TRADE SECRET, AND YOUR HONOR
7 MENTIONED THAT VERY SAME THING IN THE KNAUTH REPORT.

8 THE COURT: YEAH, I KNOW THAT, MR. RENARD, BUT,
9 YOU KNOW, ALL I CAN DO IS LOOK AT THE EXPERT'S REPORT AND LOOK
10 AT THE MOTION TO EXCLUDE OR STRIKE IT, AND DETERMINE WHETHER OR
11 NOT -- AND MOST OF THESE EXPERTS GET BY THE TEST OF
12 QUALIFICATIONS. I MEAN, THEY'RE QUALIFIED. BUT THEN THE
13 QUESTION HAS TO DO WITH THE RELIABILITY OF THEIR OPINIONS, AND
14 IF THE DOCUMENTS THEY RELY ON DON'T SUPPORT A CONCLUSION -- AND
15 THAT'S WHAT I SAID HERE -- THAT HIS DOCUMENTATION THAT HE
16 OFFERED IN HIS REPORT AND DISCLOSED TO THE OTHER SIDE DIDN'T
17 SUPPORT -- MAKE THE DEMONSTRATION THAT THESE TRADE SECRETS ARE
18 IN THE PUBLIC DOMAIN, YOU'RE SAYING COMPONENTS OF THEM ARE IN
19 THE PUBLIC DOMAIN?

20 MR. RENARD: YES, YOUR HONOR.

21 THE COURT: OKAY.

22 MR. RENARD: AND ASPECTS OF IT. AND -- AND IT
23 DOES GO TO -- AND I THOUGHT THAT'S WHAT THE COURT MEANT BY
24 TALKING ABOUT CERTAIN INFORMATION THAT'S RELEVANT TO THE
25 INQUIRY OF WHETHER THE PLAINTIFF HAS ANY TRADE SECRETS SUBJECT

1 TO PROTECTION, THAT'S PAGE 6, THAT CERTAINLY THE JURY, YOUR
2 HONOR, IS -- NOT ONLY CAN SEE BUT I THINK SHOULD BE ENTITLED TO
3 SEE WHAT'S OUT THERE THAT WOULD THEN ALLOW THEM TO SAY, WELL,
4 IS THIS AN INNOVATIVE TRADE SECRET STEP OR ARE WE MERELY JUST
5 DOING THE OBVIOUS? AND THAT'S DIFFERENT THAN SAYING THE TRADE
6 SECRET IN ITS ENTIRETY IS THE PUBLIC DOMAIN.

7 AND I THINK, YOUR HONOR, THAT'S WHAT I HAD --
8 READING IT FROM MY VANTAGE POINT, WHAT WE HAVE BEGUN TO
9 ESTABLISH AND GONE A LONG WAY TOWARDS ESTABLISHING IN MY
10 CROSS-EXAMINATION OF MR. BLACK AND MR. HOLCOMBE, THAT WHEN YOU
11 LOOK AT IT AND YOU LOOK AT THESE PATENTS AND YOU LOOK AT THESE
12 TEXTBOOKS, THAT WHAT YOU HAVE IN THE END IS WHAT YOU'RE
13 CLAIMING IS A TRADE SECRET IS REALLY A COMBINATION OF THINGS
14 OUT THERE THAT WERE PUBLIC DOMAIN AND READILY OBVIOUS AND
15 THINGS OF THAT NATURE WITHOUT SAYING THE TRADE SECRET ITSELF
16 IS -- IS IN THE PUBLIC DOMAIN.

17 IT'S -- IT'S A LOT LIKE -- AND I HATE TO USE THE
18 ANALOGY, YOUR HONOR, BUT -- BECAUSE IT'S PROBABLY NOT PRECISE,
19 BUT IT'S LIKE THE OBVIOUS INQUIRY IN PATENTS. IT'S ONE THING
20 TO SAY, WELL, WHETHER -- YOU KNOW, HAS THIS PARTICULAR
21 INVENTION BEEN PREVIOUSLY DISCLOSED, THAT'S A DIFFERENT INQUIRY
22 THAN WHETHER THE PATENTED -- THE CLAIMED INVENTION IS OBVIOUS
23 BASED UPON A COMBINATION OF -- OF PRIOR ART OUT THERE. AND
24 THAT'S REALLY THE WAY I INTERPRETED THE COURT'S OPINION TO BE,
25 THAT AS LONG AS MR. KNAUTH'S NOT DRAWING THE ULTIMATE

1 CONCLUSION --

2 THE COURT: THAT THE FULL TRADE SECRET IS IN THE
3 PUBLIC DOMAIN.

4 MR. RENARD: YES.

5 MR. MCDOWELL: I DON'T THINK THAT'S QUITE RIGHT,
6 YOUR HONOR, BECAUSE HERE'S THE PROBLEM. AND WHAT MR. RENARD
7 SAYS ABOUT SHOWING DOCUMENTS TO OTHER WITNESSES -- AND BY THE
8 WAY, THOSE WERE DOCUMENTS THEY CHOSE TO SHOW OUR WITNESSES.
9 YOUR HONOR SAID THAT -- THAT'S FINE. THAT'S IN BOUNDS BECAUSE
10 THOSE WITNESSES AREN'T MR. KNAUTH. MR. KNAUTH'S DIFFERENT.
11 HE'S AN EXPERT. HE HAD TO GIVE A REPORT. HE HAD TO IDENTIFY
12 THE DOCUMENTS HE WAS RELYING UPON. AND HE DID, AND YOUR HONOR
13 FOUND THOSE TO BE LACKING, NOT JUST -- WITH RESPECT TO JUST
14 THESE 12 TRADE SECRETS.

15 THE COURT: WELL, TO BE LACKING IN DEMONSTRATING
16 THAT THE ENTIRE TRADE SECRET IS IN THE PUBLIC DOMAIN.

17 MR. MCDOWELL: THAT'S -- NO, IT'S NOT SO LIMITED
18 ON THE ORDER. IF YOU LOOK AT PAGE 8, YOUR HONOR, THE ONLY
19 DOCUMENTS HE IDENTIFIED WITH RESPECT TO THOSE 12 TRADE
20 SECRETS -- AND LET ME TAKE A QUICK ASIDE WHILE YOU GO THERE.
21 MR. RENARD IS -- IS KIND OF MIXING THE TRADE SECRETS. THERE
22 ARE 20 THAT HE REFERRED TO IN HIS REPORT. YOU'VE IDENTIFIED
23 12, AND ON THOSE 12, YOU SAID ALL OF HIS OPINIONS RELATED TO
24 PUBLIC DISCLOSURE IS EXCLUDED.

25 WITH RESPECT TO THE -- SOME OTHER TRADE SECRETS,

1 YOU DIDN'T EXCLUDE ANYTHING, SO WITH THIS EXAMPLE THAT
2 MR. RENARD OFFERED WITH TRADE SECRET NUMBER 10, CAT-A-LAC BLACK
3 PAINT, HE CAN PUT ON ANY PUBLIC DOMAIN DOCUMENT HE WANTS TO FOR
4 CAT-A-LAC BLACK PAINT. IT'S JUST THESE 12, AND IT IS BASED ON
5 THE DOCUMENTS THAT MR. KNAUTH PROVIDED AND YOUR HONOR ALREADY
6 FOUND LACKING, YOU SAID THAT THEY DO NOT MAKE A DEMONSTRATION,
7 KNAUTH'S PUBLIC DOMAIN EXPERT OPINIONS WITH REGARD TO THOSE
8 TRADE SECRETS ARE EXCLUDED. AND IT -- YOU CAN'T NOW SAY BUT
9 NOT THIS ASPECT OF PUBLIC DOMAIN, BUT THAT ASPECT OF PUBLIC
10 DOMAIN, BECAUSE YOU CAN'T SLICE IT THAT THIN. IT'S ALL OF THE
11 OPINIONS RELATED TO PUBLIC DOMAIN FOR THOSE 12.

12 MR. RENARD: YOUR HONOR --

13 MR. MCDOWELL: BECAUSE THAT WAS WHAT WAS BASED
14 ON HIS DOCUMENTS.

15 MR. RENARD: YOUR HONOR, THAT DOESN'T ADDRESS
16 THIS DISTINCTION BETWEEN --

17 THE COURT: YOU KNOW, I PROBABLY SHOULD HAVE
18 SAID THAT BECAUSE THE DOCUMENTATION PROVIDED BY KNAUTH TO
19 SUPPORT HIS CONCLUSIONS THAT THE ENTIRE TRADE SECRET IS IN THE
20 PUBLIC DOMAIN DO NOT MAKE THAT DEMONSTRATION.

21 MR. RENARD: AND, YOUR HONOR, THAT'S THE WAY WE
22 READ IT, ESPECIALLY WITH THE COURT'S STATEMENTS ABOUT BEING
23 ABLE TO OPINE THAT CERTAIN INFORMATION'S IN THE PUBLIC DOMAIN
24 RELEVANT TO THE INQUIRY.

25 AND, YOUR HONOR, ANOTHER EXAMPLE, IF I MAY --

1 THE COURT: I MEAN, WHAT I SAID WAS THE TRADE
2 SECRET.

3 MR. RENARD: RIGHT.

4 THE COURT: MAYBE IT WOULD HAVE BEEN BETTER
5 EMPHASIZED TO SAY THE ENTIRETY OF THE TRADE SECRET.

6 MR. RENARD: AS DISTINGUISHED FROM ELEMENTS
7 THEREOF.

8 THE COURT: YES.

9 MR. RENARD: OR MATTERS CLOSELY RELATED TO.

10 THE COURT: YES.

11 MR. MCDOWELL: WELL, UNDER THE FIFTH CIRCUIT
12 LAW, YOUR HONOR, A PIECE OR A PART OR A SCREW THAT THEY FIND IN
13 A PATENT DOESN'T MAKE ANY DIFFERENCE. IT'S IRRELEVANT. THE --
14 THE ONLY RELEVANT INQUIRY IS WHETHER THE TRADE SECRET IS IN THE
15 PUBLIC DOMAIN.

16 MR. RENARD: WELL, THAT'S --

17 MR. MCDOWELL: A PART -- A PART ISN'T RELEVANT
18 UNDER THE -- THE FIFTH CIRCUIT LAW THAT YOU CITED IN THE SAME
19 ORDER. WHAT -- WHEN WE'RE TALKING ABOUT PUBLIC DOMAIN.

20 THE COURT: WELL, IT DOESN'T PROVE FULL
21 DISCLOSURE, BUT IT MAY BE RELEVANT. DIFFERENT COMPONENTS ARE
22 IN THE PUBLIC DOMAIN.

23 MR. MCDOWELL: WELL, THE SOLE REASON FOR PUTTING
24 ON PUBLIC DOMAIN EVIDENCE IS TO SHOW THAT THE TRADE SECRET WAS
25 DISCLOSED IN THE PUBLIC. THERE'S NO OTHER PURPOSE FOR IT. SO,

1 TO -- TO SAY, WELL, HE'S -- HE'S NOT ALLOWED TO DRAW A
2 CONCLUSION FOR THE JURY TO HELP THE JURY THAT IT IS IN THE
3 PUBLIC DOMAIN, I JUST WANT TO PUT ON A DOCUMENT AND POINT TO A
4 SCREW AND HOPE THE JURY CAN MAKE THAT -- MAKE THAT -- THAT
5 CONNECTION THEMSELVES BECAUSE MR. KNAUTH CAN'T DO IT. HE'S
6 EXCLUDED FROM DOING IT. THE JURY CAN'T DO IT. SO, HE'S
7 PUTTING ON AN IRRELEVANT PIECE OF EVIDENCE UNDER THE FIFTH
8 CIRCUIT LAW BECAUSE IT'S GOT TO BE THE EMBODIMENT OF THE TRADE
9 SECRET. AND HE'S DOING IT IN A WAY SO THAT HE CAN -- SO THE
10 JURY MIGHT BE MISLED OR CONFUSED BY AN EXPERT'S TESTIMONY WHEN
11 THE EXPERT HAS ALREADY BEEN EXCLUDED FROM -- FROM DRAWING THAT
12 CONCLUSION OR MAKING THAT INFERENCE.

13 MR. RENARD: YOUR HONOR, THE SUGGESTION THAT WE
14 CANNOT USE A PIECE OF EVIDENCE, FOR INSTANCE, ON EC-2216
15 ADHESIVE WHERE THE MANUFACTURER IS SAYING THIS IS GREAT FOR
16 CRYOGENIC APPLICATIONS, WHICH IS IN EVIDENCE WITHOUT OBJECTION
17 BY RAYTHEON, AND ALL THE OTHER DOCUMENTS LIKE THAT, THE
18 PATENTS, I HEARD NO --

19 THE COURT: IS THAT A DOCUMENT THAT WAS
20 DISCLOSED IN MR. KNAUTH'S --

21 MR. RENARD: YES, YOUR HONOR, AS WELL AS A LOT
22 OF THESE PATENTS THAT I'VE BEEN TALKING TO HIM. THAT WENT ON
23 WITHOUT OBJECTION ON THEIR PART SAYING THIS IS IRRELEVANT, IT
24 DOESN'T MATTER WHETHER OR NOT BITS AND PIECES ARE IN THE -- IT
25 CERTAINLY MATTERS FOR THE JURY TO BE ABLE TO PUT TOGETHER, DO

1 WE HAVE A TRADE SECRET, DO WE HAVE SOMETHING OF VALUE, OR IS
2 THIS MERELY AN OBVIOUS STEP IN PUTTING THESE THINGS TOGETHER --

3 THE COURT: SO YOU'RE SAYING THE DOCUMENTS YOU
4 WANT TO EXAMINE MR. KNAUTH ON WERE DISCUSSED AND DISCLOSED IN
5 HIS REPORT AS BEING DOCUMENTS HE REVIEWED?

6 MR. RENARD: YES.

7 THE COURT: OKAY. DO YOU DISAGREE WITH THAT?

8 MR. MCDOWELL: I DON'T KNOW WHAT DOCUMENTS HE'S
9 PLANNING ON PUTTING IN FRONT OF MR. KNAUTH, BUT THOSE ARE THE
10 VERY SAME DOCUMENTS THAT YOUR HONOR HAS ALREADY FOUND DON'T
11 SHOW WHAT MR. KNAUTH'S BEING ASKED TO DRAW FROM.

12 THE COURT: THEY DON'T SHOW THAT THE ENTIRE
13 TRADE SECRET'S IN THE PUBLIC DOMAIN.

14 MR. MCDOWELL: AND THAT'S THE ONLY ISSUE THAT'S
15 RELEVANT. THE OTHER ISSUES ARE NOT RELEVANT.

16 THE COURT: WELL, I DON'T KNOW.

17 MR. MCDOWELL: BECAUSE A PIECE PART UNDER THE
18 FIFTH CIRCUIT LAW ISN'T THE LAW. IT'S JUST TO CONFUSE THE
19 JURY, AND IT'S CERTAINLY NOT HELPFUL TO THE JURY.

20 THE COURT: WHAT FIFTH CIRCUIT CASE ARE YOU
21 REFERRING TO?

22 MR. MCDOWELL: THE ONE IN YOUR ORDER,
23 METALLURGICAL. YOU QUOTED IT AS PART OF THE SIMMONS ORDER, I
24 BELIEVE, YOUR HONOR. THE SOLE PURPOSE FOR THE EXPERT IS TO BE
25 ABLE TO HELP THE JURY. THE ONLY ISSUE THAT'S RELEVANT FOR THE

1 JURY IS WHETHER OR NOT THE TRADE SECRET HAS BEEN PUBLICLY
2 DISCLOSED. AND THAT'S WHAT YOU HAVE EXCLUDED HIM FROM
3 TESTIFYING ABOUT. SO TO PUT A BUNCH OF DOCUMENTS BACK IN FRONT
4 OF MR. KNAUTH AFTER YOUR HONOR'S ALREADY SAID THEY'RE DEFICIENT
5 FOR THAT PURPOSE SERVES NO FUNCTION FOR THE EXPERT OR FOR THE
6 JURY.

7 MR. RENARD: YOUR HONOR, COUNSEL'S JUST
8 MISSTATING THE PURPOSE. HE KEEPS COMING BACK TO THIS ULTIMATE
9 CONCLUSION OF THE TRADE SECRET IN ITS ENTIRETY BEING IN THE
10 PUBLIC DOMAIN. AND, YOUR HONOR, IT'S -- IT'S CALIFORNIA LAW
11 THAT OBVIOUSLY APPLIES HERE, AND THERE ARE A LOT OF FACTORS, AS
12 THE COURT WELL KNOWS, THAT GOES INTO WHAT A TRADE SECRET IS, A
13 LOT OF DIFFERENT FACTORS, AND THAT'S CERTAINLY SOMETHING THAT'S
14 GOING TO BE ADDRESSED, I KNOW, IN THE -- DISCUSSION --

15 THE COURT: SO WHAT YOU WANT TO ARGUE IS THAT
16 BECAUSE CERTAIN ASPECTS OF THESE TRADE SECRETS WERE IN THE
17 PUBLIC DOMAIN, IT WAS SOMETHING THAT WAS EASILY ASCERTAINABLE.

18 MR. RENARD: YES, SIR.

19 THE COURT: IS THAT WHAT YOU WANT TO ARGUE?

20 MR. RENARD: YES.

21 MR. MCDOWELL: AND THAT, FRANKLY, IS NO
22 DIFFERENT THAN SAYING AN ASPECT IS IN THE PUBLIC DOMAIN;
23 THEREFORE, THE WHOLE THING IS IN THE PUBLIC DOMAIN. THAT'S
24 PART OF WHAT'S BEEN EXCLUDED.

25 MR. RENARD: THERE'S A BIG DIFFERENCE BETWEEN

1 THOSE TWO IN -- WITH ALL DUE RESPECT, AND I THINK THAT'S --

2 MR. MCDOWELL: IT'S AN EFFORT TO CIRCUMVENT THE
3 CLEAR WORDING OF THE ORDER, I BELIEVE.

4 THE COURT: ALL RIGHT. I UNDERSTAND THE
5 ARGUMENTS HERE. WHAT I DID SAY, AS MR. RENARD POINTS OUT, ON
6 PAGE 6 IS WHILE IT WOULD NOT BE POSSIBLE FOR MR. KNAUTH TO
7 OFFER A LEGAL CONCLUSION THAT THE PLAINTIFF'S TRADE SECRETS
8 CANNOT BE CONSIDERED SECRET IF THEY ARE WIDELY KNOWN IN THE
9 INDUSTRY OR IF PIECES OF INFORMATION INCORPORATED INTO TRADE
10 SECRETS ARE IN THE PUBLIC DOMAIN, IT IS PERMISSIBLE FOR
11 MR. KNAUTH TO OPINE THAT CERTAIN INFORMATION WAS IN THE PUBLIC
12 DOMAIN AND IS RELEVANT TO THE INQUIRY OF WHETHER THE PLAINTIFF
13 HAS ANY TRADE SECRETS SUBJECT TO PROTECTION.

14 SO, HE CAN'T OFFER THE ULTIMATE CONCLUSION THAT
15 THIS TRADE SECRET IS NO LONGER SECRET, BUT HE CAN OPINE THAT
16 CERTAIN INFORMATION IS IN THE PUBLIC DOMAIN.

17 AND, MR. MCDOWELL, I DID SAY ON PAGE 8, BECAUSE
18 THE DOCUMENTATION PROVIDED BY KNAUTH TO SUPPORT HIS CONCLUSIONS
19 THAT TRADE SECRETS 1 THROUGH 7, 9, 13, 14, 27, AND 30 ARE IN
20 THE PUBLIC DOMAIN, DO NOT ACTUALLY MAKE THAT DEMONSTRATION.

21 SO, HE MUST HAVE SAID SOMEWHERE IN HIS REPORT
22 THAT THESE TRADE SECRETS HAVE BEEN FULLY DISCLOSED IN THE
23 PUBLIC DOMAIN, AND I FOUND THAT THE DOCUMENTATION HE RELIED
24 UPON DID NOT SUPPORT THAT. WHETHER ASPECTS OF THEM ARE IN THE
25 PUBLIC DOMAIN, I THINK IS SOMETHING THAT HE -- HE CAN TALK

1 ABOUT. AND I THINK THAT'S WHAT MR. RENARD WANTS -- WANTS TO
2 DO.

3 MR. RENARD: YES, YOUR HONOR.

4 THE COURT: OKAY.

5 MR. RENARD: THANK YOU.

6 THE COURT: MR. RENARD, I'LL LET YOU DO THAT.

7 MR. RENARD: THANK YOU.

8 THE COURT: ALL RIGHT. IT IS 9:30. I THINK
9 WE'RE READY TO BRING IN THE JURY, MR. SERRATO.

10 (JURY PRESENT)

11 THE COURT: ALL RIGHT, PLEASE TAKE YOUR SEATS.

12 LADIES AND GENTLEMEN, I'VE SPENT THE LAST HOUR
13 WITH THE LAWYERS RESOLVING A DISPUTE, AND WE'RE READY TO
14 RESUME.

15 AND, MR. RENARD, WHO IS YOUR FIRST WITNESS FOR
16 TODAY?

17 MR. RENARD: YOUR HONOR, OUR FIRST WITNESS IS
18 MR. JONATHAN KNAUTH.

19 THE COURT: ALL RIGHT, MR. KNAUTH, WOULD YOU
20 COME UP, PLEASE. COME RIGHT UP HERE. GOOD MORNING TO YOU.

21 THE WITNESS: GOOD MORNING.

22 (THE WITNESS WAS SWORN)

23 THE COURT: OKAY. JUST COME AROUND AND HAVE A
24 SEAT.

25 JONATHAN KNAUTH,

1 HAVING BEEN FIRST DULY SWORN, TESTIFIED AS FOLLOWS:

2 DIRECT EXAMINATION OF JONATHAN KNAUTH

3 BY MR. RENARD:

4 Q. GOOD MORNING, MR. KNAUTH.

5 A. GOOD MORNING.

6 Q. WOULD YOU SPELL YOUR LAST NAME FOR THE JURY, PLEASE.

7 A. SURE IT'S K-N-A-U-T-H, AND IT'S PRONOUNCED NAUGHT.

8 Q. WHERE DO YOU LIVE, MR. KNAUTH?

9 A. I LIVE IN A LITTLE RURAL FARMING COMMUNITY IN UPSTATE
10 NEW YORK. LOT OF SNOW THERE TODAY.

11 Q. WHAT DO YOU DO FOR A LIVING?

12 A. I DESIGN THERMAL IMAGING CAMERAS, DEWARS, CAMERAS,
13 THE ENTIRE SYSTEM.

14 Q. WOULD YOU TELL US YOUR EDUCATIONAL BACKGROUND.

15 A. SURE. I HAVE A -- A BACHELOR'S IN MECHANICAL
16 ENGINEERING FROM CLARKSON UNIVERSITY.

17 Q. ARE YOU A PROFESSIONAL ENGINEER?

18 A. YES, I AM.

19 Q. AND IN WHAT FIELD DO YOU PRACTICE?

20 A. WELL, I PRACTICE PRINCIPALLY IN THERMAL IMAGING
21 CAMERAS, BUT I ALSO DO A LITTLE BIT OF CIVIL ENGINEERING WORK,
22 ACTUALLY.

23 Q. HOW MANY YEARS OF EXPERIENCE DO YOU HAVE IN THE
24 ENGINEERING FIELD?

25 A. I THINK I'M UP TO 27 YEARS.

1 Q. AND YOU TALKED ABOUT BEING INVOLVED IN THERMAL
2 IMAGING CAMERAS AND DEWARS. HOW MANY YEARS OF EXPERIENCE HAVE
3 YOU HAD IN -- IN DESIGNING THAT KIND OF EQUIPMENT?

4 A. ABOUT 18 YEARS, I THINK.

5 Q. TELL US ABOUT YOUR FIRST JOB IN THE INFRARED
6 INDUSTRY. WITH WHOM WERE YOU EMPLOYED?

7 A. I WAS EMPLOYED WITH A COMPANY CALLED INFRARED
8 COMPONENTS CORPORATION STARTING IN 1996.

9 Q. AND HOW LONG WERE YOU WITH -- IS IT SOMETIMES CALLED
10 ICC?

11 A. THAT'S CORRECT.

12 Q. HOW LONG WERE YOU WITH ICC?

13 A. WELL, I WAS WITH ICC UNTIL THE -- BASICALLY, THEY
14 KIND OF WENT OUT OF BUSINESS. A NEW COMPANY WAS FORMED CALLED
15 CRITICAL IMAGING, NEW INVESTORS, AND THAT WAS IN ABOUT 2005.

16 Q. SO, IN 2005, YOU BECAME EMPLOYED BY CRITICAL IMAGING?

17 A. THAT'S CORRECT.

18 Q. AND SOMETHING I DIDN'T ASK YOU, WHAT -- WHAT WAS YOUR
19 JOB TITLE OR PROGRESSION OF JOB TITLES WHEN YOU WERE WITH
20 INFRARED COMPONENTS CORPORATION, THAT'S ICC, BETWEEN 1996 AND
21 2005?

22 A. WELL, I STARTED AS AN ENGINEER, MOVED UP TO SENIOR
23 ENGINEER, THEN I THINK I WAS ENGINEERING MANAGER, AND WHEN I --
24 WHEN -- WHEN I TRANSFERRED OVER INTO CRITICAL IMAGING, I BECAME
25 FIRST THE ENGINEERING MANAGER AND THEN THE TECHNICAL DIRECTOR.

1 Q. AND HOW LONG HAVE YOU BEEN EMPLOYED BY CRITICAL
2 IMAGING?

3 A. SINCE 2005, SO I GUESS THAT'S, WHAT, NINE YEARS NOW.

4 Q. AND THAT IS YOUR PRESENT EMPLOYER?

5 A. THAT'S CORRECT.

6 Q. WE TALKED ABOUT ICC, BUT IS CRITICAL IMAGING ALSO IN
7 THE INFRARED BUSINESS?

8 A. YES, WE ARE.

9 Q. CAN YOU TELL US WHETHER OR NOT YOUR RESPONSIBILITY AT
10 CRITICAL IMAGING AND BEFORE THAT, INFRARED COMPONENTS COMPANY,
11 ICC, INVOLVED DESIGN AND FABRICATION OF ANY INFRARED CAMERAS?

12 A. YES, ABSOLUTELY. WE -- ICC, WE'RE PRINCIPALLY
13 INVOLVED IN THE DESIGN OF THE DEWAR, THE DETECTOR PACKAGING,
14 AND I WAS -- I JUMPED RIGHT INTO THAT IN 1996, AND GRADUALLY I
15 STARTED MOVING HIGHER UP INTO THE SYSTEM. WE WENT INTO
16 ACTUALLY DEVELOPING OUR OWN MICROBOLOMETER CHIPS, A DETECTOR
17 ITSELF, AND EVENTUALLY MOVED ON INTO ACTUALLY CREATING THE
18 ENTIRE CAMERA, THE ELECTRONICS, THE SOFTWARE, THE FIELD
19 TESTING, WORKING WITH THE CUSTOMERS, SOLVING THEIR PROBLEMS,
20 THAT SORT OF THING.

21 Q. AND IN 1996 WHEN YOU FIRST JOINED THE ICC COMPANY,
22 WHICH I GUESS BECAME CRITICAL IMAGING, WERE YOU INVOLVED IN --
23 IN THOSE ACTIVITIES?

24 A. YES, I WAS.

25 Q. NOW, THE JURY HAS HEARD ABOUT COOLED IR CAMERAS AND

1 UNCOOLED. HAVE YOU BEEN INVOLVED IN BOTH?

2 A. I ABSOLUTELY HAVE.

3 Q. DOES YOUR EXPERIENCE, MR. KNAUTH, IN INFRARED IN ANY
4 WAY RELATE TO THE ALLEGED TRADE SECRETS THAT RAYTHEON HAS
5 ASSERTED IN THIS LAWSUIT?

6 A. YES, THEY ABSOLUTELY DO.

7 Q. CAN YOU GIVE US SOME EXAMPLES OF THE WORK THAT YOU'VE
8 DONE IN THE PAST THAT SOMEHOW RELATES TO THE THINGS OR THE
9 COMPONENTS THAT ARE AT ISSUE IN THIS LITIGATION?

10 A. YEAH. WHEN -- WHEN I STARTED AT ICC, I WAS KIND OF
11 A -- I STARTED THE FIRST MONTH OR TWO AS -- AS AN ENGINEER
12 DOING DESIGN OF THINGS LIKE COLDSHIELDS, MOTHERBOARDS, AND I
13 MOVED INTO -- INTO THE STRESS ANALYSIS OF THE ENTIRE SYSTEM,
14 THE THERMAL ANALYSIS, PICKING WIRES, CLEANING PROCESSES, BAKING
15 PROCESSES, VACUUM LIFE PREDICTIONS, THE WHOLE GAMUT, REALLY.

16 Q. IN WHAT AREAS OF -- OF THERMAL IMAGING DO YOU HAVE
17 EXPERTISE?

18 A. WELL, MYSELF AND MY SMALL GROUP OF THREE OR FOUR
19 ENGINEERS ARE CAPABLE OF DESIGNING A CAMERA FROM -- IN THE CASE
20 OF MICROBOLOMETERS, FROM THE SILICON ON UP, UP THROUGH THE
21 EXTERNAL HOUSING OF THE CAMERA AND THE SOFTWARE. WE REALLY DID
22 THE ENTIRE THING.

23 WITH THE COOLED CAMERAS, WE TAKE THE DETECTOR --
24 TAKE THE DETECTOR, WE PACKAGE IT, AT LEAST WITHIN THAT ICC AND
25 THE EARLY CRITICAL IMAGING DAYS, DO ALL THE VACUUM PACKAGING

1 AND -- AND CREATE THE ENTIRE CAMERA, OPTICS OF IT.

2 Q. HAVE YOU EVER BEEN EMPLOYED BY RAYTHEON?

3 A. I HAVE NOT.

4 Q. HAVE YOU EVER BEEN EMPLOYED BY AMBER ENGINEERING?

5 A. NO.

6 Q. EVER EMPLOYED BY SANTA BARBARA RESEARCH CENTER?

7 A. NO.

8 Q. EVER BEEN EMPLOYED BY FLIR?

9 A. NO.

10 Q. HOW ABOUT INDIGO?

11 A. NO.

12 Q. THROUGH YOUR WORK WITH ICC AND CRITICAL IMAGING, HAVE
13 YOU WORKED DIRECTLY WITH ANY OTHER INFRARED COMPANIES?

14 A. YES. IN PARTICULAR IN THE ICC DAYS, WE ACTUALLY DID
15 ALL OF -- I DON'T KNOW ABOUT ALL, BUT WE DID A LARGE PORTION OF
16 THE -- OF AT LEAST WHAT I PERCEIVED TO BE A LARGE PORTION OF
17 THE CRYOGENIC PACKAGING FOR AMBER ENGINEERING. WE ALSO DID
18 SOME SMALLER PROJECTS FOR SBRC. WE DID PRODUCE QUITE A FEW
19 CAMERAS FOR -- OR AT LEAST THE CORE OF THOSE FOR A COMPANY
20 CALLED AGEMA, SOME SPECIFIC CUSTOM PROJECTS FOR COMPANIES SUCH
21 AS LOCKHEED MARTIN AND MARIETTA, ORGANIZATIONS SUCH AS NASA.

22 Q. AND CAN YOU TELL US IN CONNECTION WITH THAT WORK
23 WHETHER YOU DEVELOPED A KNOWLEDGE OF AT LEAST SOME OF THE
24 PRACTICES, METHODS, AND PROCESSES USED BY OTHER INFRARED
25 MANUFACTURERS?

1 A. YEAH, I GOT A PRETTY GOOD SENSE OF THAT, BECAUSE MANY
2 TIMES THE SPECIFIC -- SPECIFIC ASPECTS OF THE PACKAGING WERE --
3 YOU KNOW, THEY HAD PREFERENCES. THEY MIGHT HAVE A PREFERENCE
4 HOW A COLDSHIELD MIGHT BE CREATED. THEY MAY HAVE SPECIFIC
5 REQUIREMENTS SO FAR AS VIBRATION OR SHOCK RESISTANCE MIGHT BE
6 CONCERNED. THEY MAY HAVE CONCERNS ABOUT RELIABILITY OF
7 WIREBOND. SO I GOT A PRETTY GOOD SENSE OF WHAT DIFFERENT
8 COMPANIES THINK ARE IMPORTANT AND NOT IMPORTANT.

9 Q. MR. KNAUTH, BESIDES JUST WORKING WITH COMPANIES, HAVE
10 YOU IN YOUR CAREER GAINED INFORMATION ABOUT WHAT'S GOING ON
11 WITHIN THE INFRARED BUSINESS IN TERMS OF PARTICULAR DESIGNS,
12 PROCESSES, AND METHODS?

13 A. YEAH. ONE OF THE THINGS THAT I DO PRETTY MUCH EVERY
14 YEAR IS I GO TO A LARGE TRADE SHOW CALLED THE -- IT'S PUT ON BY
15 AN ORGANIZATION CALLED SPIE. IT'S THE DEFENSE AND SECURITY
16 SYMPOSIUM. AND THERE ARE MANY VENDORS OF ALL OF THE LITTLE
17 PIECE PARTS. THERE ARE CAMERA COMPANIES, THERE ARE SENSOR
18 COMPANIES, AND -- AND WE GO THERE, AND WE SEE WHAT EVERYBODY
19 HAS TO OFFER, TALK TO DIFFERENT PEOPLE. ONE OF THE ASPECTS OF
20 THE INFRARED BUSINESS THAT I WAS TOLD RIGHT TO BEGIN WITH IS
21 THAT EVERYONE IS A -- AT LEAST BACK IN THE DAY, EVERYONE WAS A
22 CUSTOMER, A SUPPLIER, AND A COMPETITOR TO EVERYONE ELSE, AND SO
23 THERE'S A LOT OF CROSS-POLLINATION THAT WAS GOING ON.

24 Q. ARE YOU FAMILIAR WITH THE MANTECH PROGRAM?

25 A. YES, I AM.

1 Q. CAN YOU TELL THE JURY WHAT THAT IS AND WHAT ITS
2 PURPOSE IS?

3 A. YEAH. THE -- THE MANTECH PROGRAM WAS A -- AS I
4 UNDERSTAND IT, WAS -- THE GOVERNMENT WOULD SPEND MONEY ON R&D,
5 AND THEY WOULD HELP COMPANIES DEVELOP PRODUCTS, AND ONE OF THE
6 THINGS THAT THEY WANTED OUT OF THAT IS TO KIND OF DISSEMINATE
7 SOME OF THE INFORMATION AS TO HOW THESE THINGS ARE DONE SO THAT
8 SOME THINGS WERE, YOU KNOW, TAUGHT TO OTHER COMPANIES.

9 Q. THERE WAS SOME TESTIMONY BY, I BELIEVE, MR. BLACK
10 ABOUT INDUSTRY REVIEWS. DO YOU RECALL THAT?

11 A. THAT'S CORRECT, YES.

12 Q. DO THOSE IN ANY WAY RELATE TO THIS MANTECH PROGRAM?

13 A. WELL, ORGANIZATIONALLY, I'M NOT REALLY CERTAIN OF
14 THAT, BUT -- BUT IT SEEMS TO ME TO BE THE SAME SORT OF
15 MOTIVATION, AT LEAST, TO TRY TO GET SOME OF THE TECHNOLOGY THE
16 GOVERNMENT'S PAYING FOR OUT, YOU KNOW, AMONGST THE OTHER
17 COMPANIES SO OTHER COMPANIES CAN TAKE ADVANTAGE OF THAT, REDUCE
18 OVERALL COST TO THE GOVERNMENT, WAS MY UNDERSTANDING OF IT.

19 Q. AND IN TERMS OF THESE INDUSTRY REVIEWS, WERE YOU EVER
20 PROVIDED COPIES OF -- OF THOSE AT -- DURING YOUR EMPLOYMENT AT
21 ICC?

22 A. YES. WHEN I FIRST STARTED IN 1996, I WAS GIVEN THE
23 SADA PROGRAM REVIEW THAT'S BEEN INTRODUCED INTO EVIDENCE HERE,
24 AND I WAS GIVEN THAT AS A KIND OF A PRIMER ON HOW TO DESIGN
25 DEWARS. NOW, IT DOESN'T TEACH EVERYTHING FOR SURE, BUT IT GAVE

1 A LOT OF INSIGHT, AND I STUDIED IT VERY EXTENSIVELY TO TRY TO
2 PULL OUT ANY LITTLE BIT OF INFORMATION THAT I COULD FIND.

3 Q. CAN YOU TELL THE JURY, SIR, WHETHER YOU'RE A MEMBER
4 OF ANY PROFESSIONAL ORGANIZATIONS?

5 A. YEAH, I'M A MEMBER OF THE AMERICAN SOCIETY OF
6 MECHANICAL ENGINEERS AND THE NATIONAL SOCIETY OF PROFESSIONAL
7 ENGINEERS.

8 Q. HAVE YOU RECEIVED ANY AWARDS BY ANY OF THOSE CHAPTERS
9 OR SUBCHAPTERS OF THOSE ORGANIZATIONS?

10 A. YEAH. IN 2012, I WAS NAMED THE ENGINEER OF THE YEAR
11 BY MY LOCAL CHAPTER. THEY NAMED ME FOR CONTRIBUTIONS TO
12 THERMAL IMAGING.

13 Q. HAVE YOU PUBLISHED AT ALL IN THE FIELD OF INFRARED?

14 A. YES, I'VE PUBLISHED A NUMBER OF PAPERS TO THE
15 JOURNALS OF SPIE, JUST KIND OF THE -- I DON'T KNOW, ONE OF THE
16 LARGE INFRARED SORT OF ORGANIZATIONS AND THEY DO OTHER THINGS
17 AS WELL. IEEE, I'VE PUBLISHED A FEW PAPERS. THE FRENCH
18 JOURNAL OF PHYSICS, A FEW OTHER SMALLER CONFERENCES.

19 Q. YOU'RE FAMILIAR WITH PATENTS, ARE YOU NOT?

20 A. YES, I AM.

21 Q. HOW SO?

22 A. I HAVE THREE PATENTS THAT HAVE BEEN ISSUED, AND I'M
23 KIND OF HOPING TO GET A FOURTH ONE HERE IN THE NEXT FEW MONTHS.

24 Q. GOT AN APPLICATION IN THE WORKS?

25 A. LOOKS -- LOOKS PROMISING, YES.

1 Q. BEFORE WE MOVE ON, MR. KNAUTH, CAN YOU JUST GIVE US A
2 LITTLE BIT ABOUT YOUR PERSONAL BACKGROUND?

3 A. SURE. I'VE -- I WAS BORN IN UPSTATE NEW YORK,
4 COOPERSTOWN, BASEBALL HALL OF FAME, AND I MARRIED MY HIGH
5 SCHOOL SWEETHEART 28 YEARS AGO, AND I'VE GOT TWO BOYS, 17 AND
6 23. I'M HOPING THE 23-YEAR-OLD IS GOING TO BE GRADUATING FROM
7 COLLEGE IN A COUPLE OF WEEKS. SO THAT'S A RELIEF.

8 Q. SIR, CAN YOU -- WE'VE HEARD A LOT ABOUT THE INFRARED
9 INDUSTRY. ARE -- ARE THERE DISCIPLINES THAT -- THAT MAKE UP
10 THE INFRARED INDUSTRY? AND BY THAT, MAYBE A BETTER QUESTION
11 IS, WHAT ARE THE ORIGINS OF THE INDUSTRY IN TERMS OF
12 DISCIPLINES THAT EXISTED PRIOR TO INFRARED EVER COMING INTO
13 EXISTENCE THAT BEAR UPON WHAT INFRARED MANUFACTURERS DO?

14 A. YEAH. THE -- THE INFRARED INDUSTRY -- SO, WHAT ARE
15 KIND OF SOME OF THE BIG COMPONENTS OF IT. ONE IS THE -- IS
16 THE -- THE SEMICONDUCTOR DEVICES, THE DETECTORS AND SO FORTH,
17 THE READOUTS. THAT KIND OF ALL COMES FROM THE SEMICONDUCTOR
18 PROCESSING FIELD. ONE THING THAT THE SEMICONDUCTOR PROCESSING
19 FIELD AND RESEARCHERS NEED IS VACUUM TO WORK IN, AND SO THEY
20 DEVELOPED A LOT OF VACUUM SCIENCE, KIND OF BASIC VACUUM SCIENCE
21 THAT THE INFRARED INDUSTRY KIND OF RELIES ON.

22 ADDITIONAL TO THAT, THERE WERE ALSO, BACK IN THE
23 DAY, THERE WERE VACUUM TUBES, AND SO SOME OF THE EARLY DEWARS,
24 A LOT OF THE EARLY DEWARS, IN PARTICULAR MANY OF THEM PRODUCED
25 BY HUGHES BACK THEN WERE ACTUALLY KIND OF DESIGNED LIKE THEY'RE

1 GLASS TUBES LIKE YOU MIGHT FIND IN AN OLD -- LIKE A TUBE
2 AMPLIFIER FOR AN ELECTRICAL GUITAR OR SOMETHING LIKE THAT.
3 THOSE ARE THAT KIND OF TUBE.

4 AND EVENTUALLY -- SO THE GLASS HERMETIC SEALS
5 WERE THERE, A LOT OF THE GETTERS WERE PART OF THOSE PACKAGES,
6 AND ALL OF THAT STUFF KIND OF FORMS THE BASIS OF WHAT THE
7 INFRARED INDUSTRY KIND OF GREW OUT OF. WE USED ALL THOSE
8 TOOLS.

9 Q. AND HOW ABOUT CRYOGENIC ENGINEERING?

10 A. YEAH. OF COURSE, A LOT OF RESEARCHERS DO CRYOGENIC
11 WORK IN STUDYING DIFFERENT PROPERTIES OF MATTER OR THE
12 PHYSICISTS AND SO FORTH. NASA DOES A LOT OF WORK IN THE AREA
13 OF CRYOGENICS BECAUSE THE COLD OF SPACE, THE VACUUM OF SPACE IS
14 ANOTHER ASPECT OF -- OF THE KIND OF BASELINE TECHNOLOGY THAT
15 EXISTS THAT THE INFRARED INDUSTRY USES.

16 Q. LET'S TALK ABOUT YOUR ROLE IN THIS CASE, MR. KNAUTH.
17 WHAT HAVE YOU BEEN ASKED TO DO?

18 A. I'VE BEEN ASKED TO -- TO REVIEW A LOT OF DOCUMENTS,
19 TO LOOK AT -- TO REVIEW THE REPORT OF MR. HOLCOMBE AND GINN AND
20 TO RENDER KIND OF OPINIONS AS TO THE -- AS TO THE -- THE
21 DIFFERENT TECHNICAL ASPECTS OF THE -- OF THE CLAIMS, LOOK AT
22 WHAT -- WHAT THE -- THE DEFENDANT DOES, LOOK AT WHAT -- TRY TO
23 INTERPRET SOME OF WHAT -- SOME OF THE TRADE SECRET CLAIMS BY
24 WHAT THE -- THE -- THE PLAINTIFF DOES, AND, YOU KNOW, WRITE A
25 REPORT ABOUT ALL OF THAT.

1 Q. AND YOU HAVE WRITTEN A REPORT?

2 A. I HAVE.

3 Q. I KNOW MR. HOLCOMBE AND GINN HAVE HAD SEVERAL
4 ITERATIONS OF REPORTS, AND HAVE YOU MORE OR LESS TRACKED THOSE,
5 WHEN YOU PUT IN A REPORT, YOU RESPONDED?

6 A. YEAH, THERE WERE TWO REPORTS. ONE WAS IN 2008,
7 AND -- AND THEN AGAIN IN 2013, I SUPPLEMENTED THE REPORT BASED
8 ON SOME NEW INFORMATION.

9 Q. DID YOU DO ANYTHING OTHER THAN REVIEWING DOCUMENTS?

10 A. I ALSO REVIEWED -- I READ DEPOSITIONS, QUITE A FEW
11 DEPOSITIONS OF ALL THE KEY PLAYERS HERE. I ALSO INTERVIEWED
12 SOME EMPLOYEES OF -- OF INDIGO, SOME OF THEM YOU MET HERE,
13 ANDREW SHARPE, PAUL SCHWEIKERT, A NUMBER OF OTHERS.

14 Q. NOW, SIR, TO -- JUST TO GET THE JURY SOME VIEW OF HOW
15 YOU FIT IN WITH MR. SIMMONS, IS IT CORRECT THAT YOU HAVE
16 ADDRESSED THE TRADE SECRETS THAT MR. SIMMONS HAS NOT?

17 A. YEAH, I THINK THAT THAT'S CORRECT.

18 Q. OKAY. LET'S GET INTO IT BECAUSE I -- YOU'RE OUR LAST
19 LIVE WITNESS FOR TODAY, AND I THINK WE'LL BE DONE TODAY, SO
20 WITH THAT, I -- I ORGANIZED THESE TRADE SECRETS NOT NECESSARILY
21 IN -- IN SEQUENTIAL ORDER AS THEY'RE LISTED HERE BUT HOPEFULLY
22 MORE OF A LOGICAL ORDER.

23 LET'S FIRST TALK ABOUT NUMBER 1, THE USE OF
24 SILVER GOLD ALLOY WIRE FOR THE ELECTRICAL INTERFACE. AND YOU
25 WERE PRESENT, WERE YOU NOT, DURING MY CROSS-EXAMINATIONS OF --

1 OF MR. BLACK AND ALSO MR. HOLCOMBE?

2 A. YES, I WAS.

3 Q. AND YOU SAW THE -- THE EVIDENCE AND THE DOCUMENTS NOT
4 ONLY THAT RAYTHEON'S COUNSEL SHOWED THOSE RAYTHEON EXPERTS
5 IN -- IN THEIR DIRECT EXAMINATION BUT ALSO THE DOCUMENTS AND
6 EVIDENCE THAT I SHOWED THOSE EXPERTS IN THE COURSE OF MY
7 CROSS-EXAMINATION?

8 A. YES.

9 Q. AND HOPEFULLY, SIR, WE DON'T NEED TO REVISIT ALL OF
10 THAT, BUT WITH THAT BACKGROUND, I JUST WANTED TO -- TO -- HAVE
11 YOU CONSIDERED THAT, I TAKE IT, IN CONNECTION WITH THE OPINIONS
12 THAT YOU'VE RENDERED?

13 A. YEAH, THAT'S CORRECT.

14 Q. WITH RESPECT TO GOLD-SILVER WIRE, FIRST OF ALL, LET
15 ME ASK YOU, IS THE WIRE THAT RAYTHEON USES FOR THE INTERCONNECT
16 THE SAME WIRE THAT IS USED BY INDIGO?

17 A. NO.

18 Q. HOW DO THEY DIFFER?

19 A. WELL, INDIGO ORDERS TWO DIFFERENT DIAMETERS, SO
20 THERE'S A LITTLE BIT OF OVERLAP, BUT THEY ORDER TWO DIFFERENT
21 DIAMETERS. THEY HAVE DIFFERENT ELONGATION PERCENTAGE. THEY
22 HAVE DIFFERENT HARDNESS.

23 Q. WHY DOES THAT MATTER? FIRST OF ALL, LET'S TALK ABOUT
24 A DIFFERENT DIAMETER.

25 A. OKAY.

1 Q. ONE OF THE TWO YOU SAY THAT INDIGO ORDERS, HOW DOES
2 DIAMETER AFFECT, IF IT DOES AT ALL, EITHER ELECTRICAL
3 CONDUCTIVITY OR THERMAL CONDUCTIVITY OR BONDABILITY?

4 A. YEAH, IT -- IT'S -- TO THE PHYSICAL PROPERTIES, IT'S
5 LESS THE CONDUCTIVITY AS THE CONDUCTOR, THE AMOUNT OF
6 ELECTRICITY THAT CAN GO THROUGH, THE RESISTANCE OF THE WIRE.
7 IF IT'S A LARGER DIAMETER, THEN IT'S GOING TO BE LESS
8 RESISTANCE. IF IT'S A LARGER DIAMETER, IT'S GOING TO BE MORE
9 THERMAL CONDUCTION THROUGH THE WIRE.

10 Q. IN THE COURSE OF YOUR WORK IN THE INFRARED INDUSTRY,
11 HAVE YOU TESTED AND SELECTED AND CHOSEN WIRES BY SPECIFIC
12 DIAMETERS?

13 A. YES, I HAVE.

14 Q. THE OTHER -- ANOTHER FACTOR YOU MENTIONED WAS
15 DIFFERENT ELONGATION, AND BY THE WAY, I THINK WE HEARD
16 TESTIMONY FROM THE CALIFORNIA FINE WIRE REPRESENTATIVE
17 YESTERDAY WHERE HE TALKED ABOUT SOMETHING CALLED ELONG,
18 E-L-O-N-G. WHAT IS THAT?

19 A. WELL, IT --

20 Q. IS THAT A UNIT OF MEASUREMENT?

21 A. YEAH, IT'S A -- IT'S BASICALLY A -- IT'S A PARAMETER
22 THAT MECHANICAL ENGINEERS LEARN WHEN THEY'RE TRAINING AS
23 MECHANICAL ENGINEERS THAT HAS TO DO WITH HOW MUCH THE THING
24 STRETCHES BEFORE IT ULTIMATELY BREAKS.

25 Q. AND IN THE COURSE OF YOUR OWN WORK IN THE INFRARED

1 INDUSTRY, HAVE YOU HAD TO MAKE DETERMINATIONS OF WHAT
2 ELONGATION PROPERTIES OUGHT TO BE USED WITH RESPECT TO
3 INTERCONNECT WIRES OR ANY OTHER WIRES WITHIN A DEWAR?

4 A. YES, I HAVE.

5 Q. AND WHAT ARE THE CONSIDERATIONS THAT GO INTO THAT?
6 WHY WOULD YOU -- WHY DOES IT MATTER?

7 A. WELL, IT MATTERS BECAUSE IT -- IT SPEAKS TO THE --
8 THE DURABILITY OF THE -- OF THE WIREBOND AND -- AND IN
9 ENVIRONMENTS WHERE THERE MIGHT BE SOME SHAKING AND THAT SORT OF
10 THING.

11 Q. ANOTHER FACTOR THAT YOU MENTIONED WAS, WITH RESPECT
12 TO HARDNESS, AND -- REMIND US AGAIN, IS THERE A DIFFERENCE, OR
13 ARE THEY THE SAME BETWEEN RAYTHEON AND INDIGO?

14 A. THEY ARE DIFFERENT.

15 Q. HOW DOES HARDNESS BEAR UPON THE DECISION MAKING THAT
16 AN ENGINEER UNDERTAKES IN SELECTING AN INTERCONNECT WIRE?

17 A. WELL, IT -- IT GOES TO HOW MUCH PRESSURE IS NEEDED TO
18 COMPRESS THE BALL. BASICALLY, WHAT HAPPENS IS YOU TAKE THE
19 WIRE, AND YOU -- YOU SHOW IT TO -- TYPICALLY, IT'S A HYDROGEN
20 FLAME, AND YOU SEE IT -- IT TURNS THE END OF -- MELTS THE END,
21 TURNS IT INTO A BALL, AND THEN YOU TAKE IT AND YOU PRESS IT
22 DOWN ON TO THE -- ON TO THE SUBSTRATE, THE PAD THAT YOU'RE
23 GOING TO BOND.

24 NOW, DEPENDING ON WHAT THE HARDNESS IS, YOU
25 CAN -- THAT MIGHT FORCE -- CAUSE YOU -- IF IT WAS TOO HARD, TO

1 APPLY TOO MUCH PRESSURE, AND THAT COULD CAUSE BREAKAGE OF A
2 VERY DELICATE DIE. SO IT'S AN IMPORTANT PARAMETER TO THE
3 SUCCESS OF THE WIREBONDING AND WHETHER OR NOT YOU MIGHT, YOU
4 KNOW, CAUSE ANY RELIABILITY ISSUES TO BREAK IT OR SOMETHING,
5 APPLYING TOO MUCH PRESSURE.

6 Q. AND HOW IS HARDNESS MEASURED, OR WHAT IS THE
7 TERMINOLOGY USED TO DISTINGUISH ONE KIND OF HARDNESS FROM
8 ANOTHER?

9 A. WELL, WHEN YOU DRAW A WIRE, YOU INTRODUCE WHAT'S
10 REFERRED TO AS COLD WORK, AND SO YOU HARDEN SOMETHING. AND SO
11 EVENTUALLY, IT COMES TO A -- LIKE A FULL HARD FROM THE AS DRAWN
12 CONNECTION, AND THEN YOU CAN ANNEAL IT FROM THERE. SO WHEN YOU
13 ANNEAL IT, YOU EXPOSE IT TO A HIGHER TEMPERATURE, IT SOFTENS A
14 LITTLE BIT, AND IT CAN SOFTEN ALL THE WAY, IT CAN SOFTEN HALF
15 THE WAY, A QUARTER OF THE WAY, THREE QUARTERS OF THE WAY,
16 THAT'S BASICALLY THE CONCEPT.

17 Q. AND WHAT ARE THE -- MEASURED BY -- THE HARDNESS
18 MEASURED -- WHAT ARE THE HARDNESS OF THE INTERCONNECT WIRES
19 THAT ARE USED BY RAYTHEON ON THE ONE HAND AND INDIGO ON THE
20 OTHER?

21 A. THE -- THE -- I'M FORGETTING THE EXACT NUMBERS. THEY
22 ARE CERTAINLY DIFFERENT BETWEEN THOSE TWO COMPANIES.

23 Q. NOW, AS AN ENGINEER, CAN YOU DESCRIBE WHAT YOU DO --
24 OR LET ME JUST ASK YOU, IS IT POSSIBLE TO MEASURE THE THERMAL
25 CONDUCTIVITY OF ANY WIRE? AND LET'S JUST USE A HYPOTHETICAL

1 WIRE.

2 A. YEAH, IT'S -- THERE'S TWO ASPECTS THERE. ONE IS THAT
3 THE ELECTRICAL CONDUCTIVITY OR THE THERMAL CONDUCTIVITY ARE
4 RELATED BY A RATIO CALLED THE WIEDEMANN-FRANZ RATIO OR THE
5 WIEDEMANN-FRANZ LAW. IT'S KIND OF A FUNDAMENTAL THING THAT YOU
6 LEARN IN MATERIAL SCIENCE IN COLLEGE. BASICALLY, IF YOU
7 MEASURE THE ELECTRICAL CONDUCTIVITY, YOU LOOK AT THE
8 WIEDEMANN-FRANZ RATIO, YOU CAN ACTUALLY DEDUCE WHAT THE THERMAL
9 CONDUCTIVITY IS OF THAT SAME WIRE.

10 Q. APPROACHING IT IN A DIFFERENT WAY, ARE THERE ANY SORT
11 OF DEVICES OR EQUIPMENT THAT YOU CAN USE TO MEASURE THE
12 ELECTRICAL CONDUCTIVITY OF A WIRE?

13 A. YES, IT'S CALLED A DIGITAL VOLTMETER.

14 Q. OKAY.

15 THE COURT: MR. KNAUTH, COULD YOU SPELL THE
16 WIEDEMANN-FRANZ CONCEPT FOR THE COURT?

17 THE WITNESS: CERTAINLY.

18 THE COURT: HOW DO YOU SPELL IT?

19 THE WITNESS: W-E-I-D-E-M-A-N-N (SIC), DASH,
20 F-R-A-N-Z.

21 THE COURT: THANK YOU.

22 THE WITNESS: I THINK I GOT THAT RIGHT.

23 Q. (BY MR. RENARD) AND, SIR, I THINK YOU JUST TALKED
24 ABOUT A VOLTMETER. CAN YOU -- CAN YOU TELL US AS AN ENGINEER,
25 IS THAT AN EASY OR A DIFFICULT PROCESS?

1 A. THAT'S A VERY SIMPLE PROCESS.

2 Q. AND WITH RESPECT TO THERMAL CONDUCTIVITY, ARE YOU
3 ABLE TO MEASURE THAT?

4 A. YEAH, YOU CAN -- YOU COULD DO THAT USING THIS
5 WIEDEMANN-FRANZ RATIO, BUT THERE ARE OTHER WAYS THAT YOU CAN
6 DETERMINE THE THERMAL CONDUCTIVITY OF A WIRE. I MEAN, THERE'S
7 PUBLISHED DATA ON THE SUBJECT.

8 Q. BASED UPON YOUR INVESTIGATION AND STUDY, CAN YOU TELL
9 US THE GENESIS WITHIN RAYTHEON OF THE DECISION TO SELECT A GOLD
10 SILVER WIRE AS AN INTERCONNECT?

11 A. YEAH. WELL, AS I UNDERSTAND IT, THEY HAVE THIS ISSUE
12 OF THE FLEXIBLE FAN-OUT, AND THE FLEXIBLE FAN-OUT WAS A -- WAS
13 THIS TAPE CABLE THAT THEY WERE USING AS THEIR ELECTRICAL
14 INTERCONNECT, AND I DESIGNED FLEXIBLE FAN-OUTS. I DID ONE A
15 COUPLE YEARS AGO. THE PROBLEM WAS AS DEWARS WERE GETTING
16 SMALLER AND AS CUSTOMERS WANTED TO MAKE WIRING CHANGES, YOU HAD
17 TO CONTINUOUSLY REDESIGN THIS FLEXIBLE FAN-OUT, WHICH TOOK A
18 WHILE TO DO. IT WAS COSTLY. I THINK IT QUOTED SOMETHING LIKE
19 \$50,000 EVERY TIME YOU DID THIS.

20 SO, IF YOU COULD REPLACE THAT WITH DISCRETE
21 WIRES -- WHICH WE WERE DOING AT THAT SAME TIME AT ICC. WE WERE
22 USING DISCRETE WIRES. WE HAD ALREADY MOVED AWAY FROM FLEXIBLE
23 FAN-OUTS. WELL, NOW YOU HAVE TO PICK A WIRE. SO, YOU KNOW,
24 THAT WAS KIND OF THE GENESIS OF THIS. WE PICK A WIRE FOR THE
25 EQUIPMENT THAT THEY HAD AVAILABLE TO THEM.

1 Q. AND WITH RESPECT TO RAYTHEON, WHAT WERE THE TWO
2 CANDIDATES OR WHAT WERE THE CANDIDATES THAT WERE BEING LOOKED
3 AT TO DETERMINE WHICH WIRE TO USE FOR THEIR BONDING EQUIPMENT?

4 A. SURE. WELL, AS I UNDERSTAND IT, THEY HAD A VERY
5 PEDESTRIAN CONSIDERATION THAT THEY JUST DIDN'T HAVE ENOUGH ROOM
6 IN THE PLANT. APPARENTLY THEY MOVED OR SOMETHING LIKE THIS.
7 THAT WAS MY INTERPRETATION OF THE DOCUMENTS. AND THEY HAD AN
8 EXISTING PIECE OF EQUIPMENT THAT THEY HAD TO USE IN ORDER TO
9 WIREBOND, SO THAT WAS A BALL BONDER, AND THE TWO TYPES OF WIRE
10 THAT WORK WITH THAT WERE GOLD AND GOLD SILVER WIRE.

11 Q. AS BETWEEN GOLD AND GOLD SILVER WIRE, GOING BACK TO
12 WHAT WE TALKED ABOUT EARLIER, LET ME JUST ASK YOU, HOW WOULD
13 YOU -- WHAT ARE THE PROPERTIES THAT ONE WANTS IN INTERCONNECT
14 WIRE IN A CRYOGENIC -- CRYOGENICALLY COOLED DEWAR?

15 A. WELL, THE TWO PROPERTIES THAT YOU'RE GOING TO LOOK AT
16 THAT MIGHT BE SPECIFIC TO CRYOGENICS IS THE -- IS THE THERMAL
17 CONDUCTIVITY, AND I ALREADY SAID THAT RELATES TO THE ELECTRICAL
18 CONDUCTIVITY. NOW, IT'S A LITTLE BIT MORE COMPLICATED THAN
19 JUST TAKING A VOLTMETER BECAUSE THE PROPERTIES DO CHANGE OVER
20 TEMPERATURE, AND SO YOU HAVE TO LOOK AT -- AT THE -- AT THOSE
21 PROPERTIES OVER TEMPERATURE FROM THE HOTTER TEMPERATURE OF THE
22 PIN ON THE OUTSIDE TO THE COLD TEMPERATURE OF THE CHIP, AND SO
23 THERE IS A VARIATION ON THAT.

24 A SIMPLE APPROXIMATION TO USE IS JUST TAKE
25 THE -- BECAUSE IT'S A LINEAR RELATIONSHIP, JUST TAKE THE -- THE

1 TEMPERATURE IN THE MIDDLE. SO, IF IT'S 300 KELVIN HERE, AND
2 IT'S 77 KELVIN HERE, WELL, IN BETWEEN IT'S SOMETHING LIKE, I
3 DON'T KNOW, 180 OR WHATEVER THE MATH WORKS OUT TO BE.

4 Q. SO, TEMPERATURE'S A CONSIDERATION?

5 A. TEMPERATURE IS A CONSIDERATION.

6 Q. SO WHAT ARE YOU LOOKING FOR IN TERMS OF A WIRE
7 PROPERTY TO OPERATE APPROPRIATELY IN THIS CRYOGENICALLY COOLED
8 ENVIRONMENT?

9 A. YOU'RE -- THIS IS AN INTERESTING DESIGN PROBLEM
10 BECAUSE IF YOU JUST LOOKED AT THE THERMAL CONDUCTIVITY AND THE
11 ELECTRICAL CONDUCTIVITY, YOU WOULD SAY NO PROBLEM. I'M GOING
12 TO USE A GOLD WIRE THAT'S INCREDIBLY THIN. WELL, YOU CAN'T
13 WORK WITH A WIRE BELOW A CERTAIN THICKNESS, SO REALLY, WHAT
14 YOU'RE DOING IS YOU'RE LOOKING FOR A WIRE THAT HAS A THERMAL
15 CONDUCTIVITY THAT ALLOWS YOU TO USE IT IN A MANAGEABLE WIRE
16 SIZE, WHICH MIGHT BE ONE-THOUSANDTHS OF AN INCH. SOMETIMES
17 THEY GO JUST A LITTLE SMALLER THAN THAT TO 7 TENTHS -- TEN
18 THOUSANDTHS OF AN INCH. USUALLY IT'S ABOUT ONE-THOUSANDTHS OF
19 AN INCH. SO REALLY IT COMES DOWN TO FINDING A WIRE THAT HAS
20 THE THERMAL CONDUCTIVITY THAT ALLOWS YOU TO USE THE
21 CROSS-SECTIONAL AREA OF ABOUT ONE-THOUSANDTH OF AN INCH.

22 Q. NOW, IN THE PERIOD, SAY, 1999, COULD AN ENGINEER
23 OBTAIN THE THERMAL CONDUCTIVE PROPERTIES OF GOLD SILVER WIRE?

24 A. YES, THE GOLD-SILVER ALLOY WIRE WAS -- ALLOY, I'LL
25 SAY, WAS DISCLOSED IN THIS VOLUME CALLED TOULOUKIAN, WHICH I

1 ACTUALLY DID HAVE BACK AT ICC, STILL HAVE.

2 Q. AND DO YOU RECALL ME ASKING I BELIEVE IT WAS EITHER
3 MR. BLACK -- AND IT MAY HAVE BEEN BOTH MR. BLACK AND
4 MR. HOLCOMBE -- ABOUT THE TOULOUKIAN REFERENCE?

5 A. YES.

6 Q. WHAT IS TOULOUKIAN, AND HOW IS IT USED BY YOU OR, IF
7 YOU KNOW, THE INFRARED INDUSTRY?

8 A. YEAH, TOULOUKIAN -- TOULOUKIAN AND OTHER PEOPLE -- I
9 THINK IT CAME OUT OF MAYBE PURDUE, I THINK, GOING BACK TO, I
10 DON'T KNOW, THE '70'S OR SOMETHING LIKE THIS, STARTED COMPILING
11 THIS AMAZING VOLUME -- I THINK IT'S LIKE 13 VOLUMES. WHAT I
12 HAVE IS A -- IS -- OCCUPIES ABOUT THIS MUCH OF MY BOOKSHELF,
13 AND IT GIVES ALL THESE CRITICAL PROPERTIES THAT -- THAT YOU
14 MIGHT NEED FOR DESIGNING A WIRE OR ALMOST ANYTHING ELSE WITH
15 RESPECT TO THINGS LIKE THERMAL CONDUCTIVITY, THE ELECTRIC
16 CONDUCTANCE, TEMPERATURE COEFFICIENT OF -- OF EXPANSION, AND
17 SEVERAL OTHER PROPERTIES, SPECIFIC KEY, OTHER THINGS THAT YOU
18 WOULD NEED TO DESIGN DEWAR COMPONENTS SUCH AS WIRES.

19 Q. GOING BACK TO YOUR STUDY OF -- OF RAYTHEON'S PROCESS,
20 BETWEEN THE GOLD AND THE GOLD-SILVER WITH RESPECT TO THE USAGE
21 AND THEIR -- THE BONDABILITY -- THE BONDING DIMENSION THEY HAD
22 AT THE TIME, WHICH ONE DID THEY USE?

23 A. WELL, THEY CHOSE GOLD-SILVER. THEY HAD TWO OPTIONS,
24 GOLD AND GOLD-SILVER, AND THEY SELECTED THE GOLD-SILVER, WHICH
25 MAYBE I MISUNDERSTOOD --

1 Q. NO, SIR. I THINK THAT WAS MY QUESTION.

2 A. WELL, YOU WERE ASKING WITH RESPECT TO RAYTHEON?

3 Q. YES, SIR.

4 A. OKAY. I GOT IT.

5 Q. NOW, WITH RESPECT TO THE DOCUMENTS THAT YOU'VE SEEN
6 FROM RAYTHEON CONCERNING THE GOLD-SILVER, CAN YOU TELL US
7 WHETHER THOSE DOCUMENTS OR MOST OF THOSE DOCUMENTS WERE MARKED
8 PROPRIETARY OR SECRET OR COMPANY PROPERTY OR WORDS TO THAT
9 EFFECT?

10 A. I DON'T RECALL SEEING ANY SUCH MARKINGS.

11 Q. WAS THERE ALSO INFORMATION THAT AN ENGINEER COULD GO
12 TO IN LATE 1999, FIRST OF 2000, THAT WOULD IN ANY WAY GIVE ANY
13 INFORMATION TO AN ENGINEER ABOUT THE BONDABILITY PROPERTIES OF
14 GOLD SILVER WIRE?

15 A. YES, ABSOLUTELY.

16 Q. WHAT WAS IT?

17 A. WELL, NIPPON STEEL CORPORATION WAS LOOKING TO -- I
18 THINK THEY WERE LOOKING TO REDUCE THE COST OF GOLD WIRES, WHICH
19 ARE VERY COMMONLY USED, AND SO THEY -- ONE THING THAT THEY WERE
20 LOOKING AT IS ALLOYS OF GOLD AND SILVER, AND SO THEY STUDIED
21 THIS FAIRLY EXTENSIVELY AND MULTIPLE DIFFERENT ALLOYS, AND THEY
22 CONCLUDED THAT ONE PARTICULAR ALLOY HAD RELIABILITY AND BOND
23 RELIABILITY EQUAL TO THAT OF -- OF WHAT ARE CALLED FOUR NINES
24 GOLD, 99.99 PERCENT PURE GOLD.

25 Q. AND WHAT WAS THAT PARTICULAR COMPOSITION THAT YOU

1 RECALL?

2 A. THAT WAS 24 PERCENT SILVER AND 76 PERCENT GOLD.

3 Q. NOW, DO YOU RECALL MR. SHARPE'S TESTIMONY THAT -- OR
4 ACTUALLY, I BELIEVE, IT WAS MR. BLACK'S AND MR. HOLCOMBE'S
5 TESTIMONY THAT THE CHOICE OF GOLD-SILVER WAS A COMPROMISE?

6 A. YES.

7 Q. IN FACT, I THINK ONE MAY HAVE SAID COMPROMISE AND THE
8 OTHER A TRADEOFF OR WORDS TO THAT EFFECT.

9 A. SURE.

10 Q. AND DO YOU RECALL MR. SHARPE'S SAYING WORDS --
11 ESSENTIALLY WORDS TO THE SAME EFFECT?

12 A. YES.

13 Q. HOW IS THE SELECTION OF GOLD SILVER WIRE AS THE
14 ELECTRICAL INTERFACE IN A COOLED DEWAR A TRADEOFF OR
15 COMPROMISE?

16 A. WELL, BASICALLY, WHAT YOU'RE DOING IS YOU'RE TRADING
17 OFF THE EASE OF BONDING USING AUTOMATED -- SEMIAUTOMATIC
18 BONDING APPOINTMENT WITH THE THERMAL CONDUCTIVITY. SO, YOU'RE
19 SACRIFICING A LITTLE BIT OF HEAT LOAD ON THE DEWAR, WHICH PUTS
20 A LITTLE BIT MORE STRAIN ON YOUR -- ON THE -- THE REFRIGERATOR
21 FOR THE EASE OF PUTTING THE THING TOGETHER. THERE ARE TWO
22 DIFFERENT STYLES OF BONDING, AND BALL BONDING OR WEDGE BONDING,
23 THOSE CAN BE DONE WITH SEMIAUTOMATIC EQUIPMENT, WHEREAS THERE
24 WAS ANOTHER METHOD WHICH WE USED AT ICC CALLED SPLIT GAP
25 WELDING GIVES YOU MORE WIRE CHOICES, BUT IT'S A LITTLE BIT MORE

1 TEDIOUS TO DO.

2 Q. LET ME ASK YOU, MR. KNAUTH, ARE THERE OTHER WIRES
3 THAT CAN BE USED AND, IN FACT, ARE USED WITHIN THE INFRARED
4 INDUSTRY BY COMPANIES THAT SELL INFRARED CAMERAS?

5 A. YES, ABSOLUTELY.

6 Q. CAN YOU GIVE US SOME OF THE TYPES OF WIRES THAT ARE
7 USED FOR THAT PURPOSE?

8 A. YEAH. THE MOST COMMON ONES THAT I'VE SEEN OUT THERE
9 ARE CONSTANTAN AND MANGANIN. THESE ARE BOTH WIRES DESIGNED FOR
10 THERMOCOUPLE USE. IT'S A VERY SIMILAR APPLICATION, ACTUALLY.
11 THERE ARE OTHER TYPES OF WIRE. KOVAR IS OCCASIONALLY USED.

12 Q. AND IN FACT, SIR, ARE YOU ABLE TO TELL US OR -- LET
13 ME ASK YOU. IS GOLD SILVER WIRE USED BY THE ENTIRETY OF THE
14 FLIR ORGANIZATION?

15 A. WELL, I HAD -- THERE'S A PARTICULAR DOCUMENT THAT WAS
16 ONE THAT I REVIEWED, AND GOLD SILVER WIRE WAS USED JUST BY THE
17 SANTA BARBARA OPERATION.

18 Q. AND, SIR, ARE YOU ABLE TO IDENTIFY ANY PARTICULAR
19 PERFORMANCE ADVANTAGE OF GOLD-SILVER OVER THE OTHER TYPES OF
20 WIRES THAT ARE USED IN THE INDUSTRY IN TERMS OF ACTUAL CAMERA
21 PERFORMANCE?

22 A. NO.

23 Q. LET'S GO TO NUMBER 3, WHICH IS BACKSIDE AND EDGE
24 TREATMENT, METALLIZATION OR PAINTING OF THE FPA PLATFORM
25 MOTHERBOARD.

1 FIRST OF ALL, LET ME ASK YOU, SIR, DURING THE
2 COURSE OF YOUR WORK IN THE INFRARED INDUSTRY, HAVE YOU USED OR
3 DESIGNED METALLIZATION FOR THE MOTHERBOARD?

4 A. YES, I HAVE.

5 Q. WHAT -- WHAT RAYTHEON CALLS THE PLATFORM?

6 A. YES.

7 Q. EXPLAIN WHAT YOU DO AND WHY YOU DO IT.

8 A. YEAH, THE -- YOU HAVE TWO BASIC PROBLEMS WHEN YOU
9 DESIGN A SOMETHING THAT COLD. YOU HAVE TO -- FIRST OFF, THE
10 REFRIGERATOR HAS VERY LITTLE CAPACITY, I MEAN LESS THAN A WATT
11 OF CAPACITY. WE HAD SOME THAT WERE ONLY A QUARTER OF A WATT.
12 SO YOU HAVE TO MINIMIZE EVERY -- EVERY LITTLE TINY BIT OF HEAT
13 LOAD. AND THE WAY YOU DO THAT, ANY ENGINEER KNOWS THAT IF YOU
14 REDUCE -- IT'S ALL -- IT'S ALMOST ALL RADIATION HEAT
15 TRANSFERRED AT THAT POINT AND SO YOU NEED TO GOLD PLATE THINGS
16 IN ORDER TO MAKE THEM -- TO REDUCE THE AMOUNT OF HEAT LOAD IN
17 TERMS OF RADIATION. THAT'S THE FIRST STEP.

18 Q. AND THE SECOND BEING WHAT?

19 A. WELL, THE SECOND STEP IS -- IS THAT IF YOU'RE
20 DESIGNING A THERMAL IMAGING CAMERA, YOU'RE PUTTING THIS VERY
21 SENSITIVE DEVICE ON TOP OF A MATERIAL THAT IS -- IT'S ALUMINA
22 IS THE COMMON ONE, BUT ALUMINA IS CHEMICALLY -- I THINK WE SAW
23 ONE OF THE -- ONE OF THE EXHIBITS WAS 99 POINT SOMETHING
24 PERCENT ALUMINUM OXIDE. WELL, ALUMINUM OXIDE IS SAPPHIRE, AND
25 SAPPHIRE IS TRANSMISSIVE IN THE INFRARED, SO IT ALSO HAS THE

1 BENEFICIAL FEATURE OF BLOCKING INFRARED RADIATION FROM GOING
2 THROUGH THE MOTHERBOARD.

3 Q. HOW EARLY IN YOUR CAREER DID YOU LEARN THAT ALUMINA
4 WAS TRANSLUCENT, ALLOWED LIGHT OR INFRARED LIGHT TO PASS
5 THROUGH?

6 A. OH, PROBABLY WITHIN WEEKS OF WORKING IN THE INFRARED
7 INDUSTRY.

8 Q. HOW DID THAT HAPPEN?

9 A. WELL, I DESIGNED A -- A MOTHERBOARD, AND DESIGNED A
10 MOTHERBOARD BECAUSE WE NEEDED SOME WIRING CHANGE, IT WAS A NEW
11 FPA THAT WE WERE MODELING ON THERE SO THERE HAD TO BE SOME
12 CHANGES. AND I THINK I ALSO DESIGNED A COLDSHIELD FOR IT, BUT
13 I GAVE IT TO MY SUPERVISOR TO REVIEW, AND HE LOOKS AT IT, AND
14 HE SAID -- AND HE POINTED OUT TO ME THAT THE -- THAT THE
15 MATERIAL WAS ALUMINA --

16 MR. MCDOWELL: YOUR HONOR, I'M GOING TO OBJECT
17 AT THIS POINT TO HEARSAY.

18 MR. RENARD: YOUR HONOR, THIS IS MERELY SHOWING
19 HOW THE GENTLEMAN LEARNED -- IT'S TO SHOW HOW EARLY IN HIS
20 CAREER AND HOW OBVIOUS IT WAS THAT THIS WAS SOMETHING THAT
21 NEEDED TO BE TAKEN CARE OF.

22 THE COURT: HOW EARLY IN HIS CAREER DID HE LEARN
23 THAT ALUMINA WAS TRANSLUCENT? OKAY. HE'S ABOUT TO STATE WHAT
24 SOMEONE TOLD HIM.

25 MR. RENARD: YOUR HONOR, THIS IS REALLY MY

1 BACKGROUND. IT'S HOW THE GENTLEMAN LEARNED --

2 THE COURT: WELL, WHY CAN'T HE JUST SAY THAT HE
3 TALKED TO SOMEONE AND THAT'S HOW HE LEARNED IT?

4 MR. RENARD: THAT'S FINE, YOUR HONOR. I'LL DO
5 THAT.

6 Q. (BY MR. RENARD) SIR, LET ME ASK YOU, THIS FIRST
7 MOTHERBOARD YOU DESIGNED, WAS IT METALLIZED OR WASN'T IT?

8 A. THE FIRST ONE THAT I DESIGNED WAS NOT METALLIZED.

9 Q. AND AS A RESULT OF THIS CONVERSATION, DID YOU LEARN
10 THAT OF THE TRANSLUCENCE OF THIS MATERIAL?

11 A. IT WAS JUST POINTED OUT TO ME THAT ALUMINA WAS THE
12 SAME THING AS SAPPHIRE, AND THEN THE SOLUTION BECAME OBVIOUS.

13 Q. AND BY THE WAY, LET'S TALK ABOUT THAT PERIOD WHEN YOU
14 WERE FIRST AT ICC, 1996, SAY, THROUGH, 2000, AND I REALIZE YOU
15 WERE THERE BEYOND THAT, AND THAT CRITICAL IMAGING EVEN UP TO
16 TODAY. DURING THAT PERIOD OF TIME, WERE YOU DESIGNING THINGS
17 LIKE MOTHERBOARDS AND DEWARS?

18 A. VERY FREQUENTLY.

19 Q. AND -- AND I USE THAT IN THE PLURAL. WAS IT ONE
20 MODEL OR A NUMBER OF MODELS?

21 A. IT WAS -- IT WAS MANY MODELS.

22 Q. AND AFTER THAT FIRST EXPERIENCE AND YOUR CONVERSATION
23 WITH YOUR BOSS, HOW FREQUENTLY THEREAFTER DID YOU METALLIZE THE
24 MOTHERBOARD?

25 A. EVERY SINGLE TIME.

1 Q. AND -- AND WHAT EFFECT DOES THE METALLIZATION HAVE ON
2 THIS PROPERTY THAT YOU TALKED ABOUT OF THIS BEING ESSENTIALLY
3 SAPPHIRE IN CHEMISTRY?

4 A. WELL, IT BLOCKS THE -- THE INFRARED LIGHT FROM GOING
5 THROUGH.

6 Q. WE -- WE TALKED ABOUT, IS METALLIZATION -- WHERE WAS
7 IT ON THE MOTHERBOARD?

8 A. ON THE UNDERSIDE.

9 Q. GIVEN YOUR KNOWLEDGE AS AN ENGINEER AND YOUR
10 EXPERIENCE IN THE INFRARED BUSINESS, CAN YOU TELL US WHETHER OR
11 NOT, IN YOUR OPINION, METALLIZING THE MOTHERBOARD WAS OBVIOUS?

12 A. IT SEEMS OBVIOUS TO ME.

13 Q. AND HAVE YOU EVER DEALT -- AND BY THAT, I MEAN,
14 DESIGNED OR BEEN INVOLVED IN THE DESIGN OR PACKAGING OF ANY
15 DEWARS THAT HAD MOTHERBOARDS THAT WERE NOT METALLIZED?

16 A. ONLY IN THE CASE OF AN UNCOOLED DEVICE, WHICH WE --
17 THE USE OF THE TERM, "DEWAR," REALLY DOESN'T APPLY.

18 Q. YES, SIR. TO WHAT EXTENT IN YOUR CAREER HAVE VENDORS
19 PARTICIPATED IN METALLIZATION DESIGNS?

20 A. WELL, OFTENTIMES, WE WOULD -- I -- WE WOULD DETERMINE
21 WHAT IT IS THEY COULD DO, BUT -- BUT IT'S VERY COMMON TO, YOU
22 KNOW, ASK FOR ADVICE ON THESE THINGS.

23 Q. AND BY THE WAY, IN YOUR STUDY OF -- OF INDIGO'S
24 DOCUMENTS AND IN YOUR INTERVIEWS, WHO WAS DOING THE METALLIZING
25 OF THE -- OF THE MOTHERBOARD? IS IT INDIGO OR IS IT SOME THIRDS

1 PARTY?

2 A. IT'S A THIRD PARTY.

3 Q. AND CAN YOU TELL US WITH RESPECT TO RAYTHEON AND
4 INDIGO, COMPARING THE TWO, DO THEIR METALLIZATION STANDARDS
5 DIFFER? IN OTHER WORDS, THE AMOUNT OF METALLIZING THEY'RE
6 DOING OR ANY OTHER PART OF -- OF THE RECIPE FOR METALLIZING THE
7 MOTHERBOARD. DO THEY DIFFER?

8 A. THEY ABSOLUTELY DO.

9 Q. CAN YOU TALK TO US HOW INDIGO DOES IT? AND DOING IT,
10 MEANING, METALLIZING THE BACKSIDE OF THE MOTHERBOARD.

11 A. YEAH. THEY -- THEY CALL OUT -- THERE'S A -- THERE'S
12 A BOUNDARY LAYER OF -- KIND OF AN ADHESION LAYER OF I THINK
13 IT'S TI TUNGSTEN OR TUNGSTEN, THEY ALLOW FOR EITHER, FOLLOWED
14 BY A COATING OF GOLD, AND THEIR COATING OF GOLD, IF YOU LOOK AT
15 THE RANGE OF POSSIBILITIES, IT'S ALMOST THREE TIMES THE
16 THICKNESS OF RAYTHEON'S SPECIFICATION.

17 Q. AND WHAT IS RAYTHEON'S SPECIFICATION OR RECIPE?

18 A. IT'S --

19 Q. OTHER THAN IT'S ONE THIRD OF THE TIME?

20 A. YEAH, IT'S ONE-THIRD OF THE TIME. I THINK IT'S
21 TUNGSTEN IS THE FIRST METAL, AND THEN IT'S GOLD, BUT IT'S A
22 THINNER LAYER. IT'S A DIFFERENT THICKNESS OF TUNGSTEN TOO
23 BETWEEN THE TWO.

24 Q. AND CAN YOU TELL US IN YOUR OPINION, BASED UPON YOUR
25 REVIEW WHETHER THE RECIPE FOR -- FOR MOTHERBOARD METALLIZING --

1 METALLIZATION IS THE SAME OR DIFFERENT BETWEEN THE TWO
2 COMPANIES?

3 A. IT WOULD BE DIFFERENT.

4 Q. AND IN YOUR OPINION AND BASED UPON YOUR EXPERIENCE,
5 CAN YOU TELL US WHETHER OR NOT MOTHERBOARD METALLIZATION IS
6 COMMONLY KNOWN IN THE INFRARED INDUSTRY?

7 A. I BELIEVE IT IS.

8 Q. LET'S GO, SIR, TO TOPIC NUMBER 7, WHICH IS THE USE OF
9 CERTAIN METHODS TO CONTROL STRAY LIGHT. HOW -- BASED UPON THE
10 DISCLOSURES FROM RAYTHEON'S EXPERTS, WHAT DO YOU UNDERSTAND
11 THIS TOPIC TO INCLUDE OR TO CONSIST OF?

12 A. YEAH. IT CONSISTS OF THREE ELEMENTS. IT'S A SYSTEM,
13 AND THE SYSTEM COMPRISES BLACKENING THE INTERIOR OF THE
14 COLDSHIELD WITH PAINT, AS MY UNDERSTANDING, AND THE USE OF A
15 COLDSHIELD SKIRT AND COLDSHIELD RING, AND THEN THE USE OF A --
16 OF AN INSB-FILLED EPOXY AS PART TO THAT TO KIND OF FILL IN THE
17 GAP.

18 Q. THE PURPOSE, AS ARTICULATED IN THIS TOPIC, IS TO
19 CONTROL STRAY LIGHT. AND LET'S START THERE. TO WHAT EXTENT IS
20 KNOWLEDGE OF THE NEED TO CONTROL STRAY LIGHT COMMONLY KNOWN IN
21 THE INFRARED INDUSTRY?

22 A. I'D SAY IT'S VERY COMMONLY KNOWN.

23 Q. AND PERHAPS TO ASK THE OBVIOUS, BUT LET'S JUST MAKE
24 SURE WE ALL UNDERSTAND, WHY DO YOU NEED TO CONTROL STRAY LIGHT?

25 A. WELL, IT'S A -- THE -- IF YOU DIDN'T CONTROL STRAY

1 LIGHT, YOU'RE GOING TO HAVE GLARE. THAT'S BASICALLY WHAT IT
2 COMES DOWN TO. YOU'RE GOING TO HAVE -- YOU'RE GOING TO HAVE
3 LIGHT COMING IN FROM SOURCES THAT YOU DON'T INTEND. YOU WANT
4 THE LIGHT TO COME THROUGH THE -- THROUGH THE LENS IN THE FRONT
5 AND -- AND THAT'S ALL. SO, IF YOU HAVE LIGHT COMING IN FROM
6 OTHER AREAS, IT'S GOING TO CREATE KIND OF A HAZE OR A, YOU
7 KNOW, A FLARE ON YOUR IMAGE THAT'S GOING TO INTERFERE WITH YOUR
8 UNDERSTANDING OF WHAT'S GOING ON.

9 Q. AND TO BE CLEAR, WHEN YOU SAY LIGHT AND THE NEED TO
10 CONTROL STRAY LIGHT, ARE WE TALKING ABOUT LIGHT AS IN THE
11 VISIBLE LIGHT SPECTRUM OR LIGHT AS IN THE INFRARED LIGHT
12 SPECTRUM OR BOTH?

13 A. THE INFRARED LIGHT SPECTRUM.

14 Q. YOU TALKED ABOUT THE THREE THINGS YOU UNDERSTAND THAT
15 THIS ALLEGED TRADE SECRET COMPRISES, AND ONE THING YOU
16 MENTIONED WAS THIS COLD SHIELD SKIRTS, I BELIEVE, AND RINGS?

17 A. YES.

18 Q. CAN YOU DESCRIBE FOR US WHAT THAT IS, PERHAPS
19 GRAPHICALLY SO WE CAN HAVE AN IMAGE IN MIND?

20 A. YEAH. THE -- FIRST OFF, THE MOTHERBOARD HAS -- HAS
21 WIRE TRACES ON IT, AND SO IF YOU JUST PUT THE COLD SHIELD, WHICH
22 IS MADE OF METAL, OVER THAT, YOU'D SHORT IT OUT, SO YOU NEED
23 SOMETHING IN BETWEEN. YOU COULD USE SOME SORT OF ADHESIVE,
24 THAT MIGHT HELP.

25 BUT IN THIS CASE, WHAT WE DO IS YOU ALSO WANT

1 TO -- YOU WANT TO POSITION THAT COLD SHIELD PRECISELY WHERE IT'S
2 SUPPOSED TO BE POSITIONED, AND SO IT'S VERY HELPFUL TO HAVE
3 SOME SORT OF A -- OF A THING THAT CAN BE -- THAT YOU CAN
4 INTERFACE TO POSITION IT SO IT'S SELF-FIXTURES. AND SO WHAT
5 YOU DO IS YOU PUT A COLD -- YOU PUT A RING ON THE MOTHERBOARD
6 AND YOU PUT THE COLD SHIELD ON SO THAT THERE'S A LIP OVER THAT
7 THAT INTERFACES THAT RING.

8 Q. AND THE LIP IS BETTER FOR STRAY LIGHT CONTROL THAN
9 JUST, AS YOU SAY, THE MOTHERBOARD GLUED TO THE TOP OF THE --
10 I'M SORRY, THE COLD SHIELD GLUED TO THE TOP OF THE MOTHERBOARD;
11 IS THAT RIGHT?

12 A. YEAH. IF YOU JUST GLUE IT TO THE TOP, IF YOU DID A
13 HARD EDGE LIKE THIS OR IF YOU MADE SOME SORT OF AN L SHAPE,
14 THEN YOU HAVE POTENTIALLY A STRAIGHT PATH FOR THE LIGHT TO GO
15 THROUGH. IF YOU FORCE IT TO GO AROUND THE CORNER, WE HAVE WHAT
16 IS REFERRED TO AS A LABYRINTH AND -- AND SO IT MAKES -- IT'S
17 GOT TO GO AROUND THE RIGHT ANGLE. AND NOW THE ABSORPTIVE
18 COATINGS ON THE COLD SHIELD HAVE THE OPPORTUNITY TO ABSORB SOME
19 OF THAT LIGHT AND PREVENT IT FROM GOING AROUND THAT CORNER.

20 Q. SO, WITH RESPECT TO THESE COLD SHIELD RINGS AS YOU'VE
21 DESCRIBED IT AND THESE SKIRTS OR LIPS THAT GO OVER THE
22 COLD SHIELD RING, WERE YOU FAMILIAR WITH THAT CONCEPT DURING THE
23 TIME THAT YOU WERE AT ICC? AND SPECIFICALLY, LET'S FOCUS ON
24 THE PERIOD 1996 THROUGH 2000.

25 A. YES, ABSOLUTELY.

1 Q. DID YOU EVER DESIGN, YOURSELF, ANY COLDSHIELD
2 FIXTURES AND APPARATUS THAT HAD EXACTLY WHAT YOU'VE DESCRIBED,
3 THIS RING AND THIS SKIRT?

4 A. YES, MANY TIMES.

5 Q. BASED UPON THAT VERY PERSONAL EXPERIENCE, SIR, AND
6 WHAT YOU KNOW, GENERALLY ABOUT THE IR INDUSTRY, DO YOU HAVE AN
7 OPINION ON WHETHER OR NOT THE USE OF THAT RING WITH THAT LIP OR
8 SKIRT OVERLAY IS AN OBVIOUS SOLUTION TO CONTROL STRAY LIGHT?

9 A. I THINK IT'S A VERY OBVIOUS SOLUTION.

10 Q. LET'S GO TO THE SECOND PART THAT YOU IDENTIFIED AS
11 BEING PART OF THIS ALLEGED TRADE SECRET, AND THAT IS THE USE OF
12 A BLACK PAINT. A BLACK PAINT WHERE?

13 A. ON THE INSIDE OF THE COLDSHIELD.

14 Q. SO, WE'VE TALKED ABOUT THIS COLDSHIELD THAT GOES ON
15 THE MOTHERBOARD OVER THIS RING, AND NOW WE'RE TALKING ABOUT,
16 WHAT, THE PAINTING OF THE INTERIOR?

17 A. THAT'S CORRECT. INTERIOR.

18 Q. HOW SOON IN YOUR OWN PERSONAL EXPERIENCE IN THE
19 INFRARED INDUSTRY DID YOU RECOGNIZE A BENEFIT TO PAINTING THE
20 INSIDE OF A COLDSHIELD THE COLOR BLACK?

21 A. OH, THE COLOR BLACK IS AN OBVIOUS THING IN AND OF
22 ITSELF, BUT PAINTING -- ALMOST IMMEDIATELY.

23 Q. DID YOU SEEK ANY PATENTS THAT INCLUDED AS PART OF
24 WHAT YOU WERE CLAIMING THE PAINTING OF THE INTERIOR COLDSHIELD?

25 A. YEAH, THE -- YES, I DID IN 1998.

1 MR. RENARD: CAN WE PULL UP DEFENDANTS'

2 EXHIBIT 1569, ONE FIVE SIX NINE.

3 Q. MR. KNAUTH, DEFENDANTS' 1569 APPEARS TO BE A PATENT
4 DATED NOVEMBER OF 1999 ISSUED TO YOU AND SEVERAL OTHER
5 GENTLEMEN, CORRECT?

6 A. YES.

7 Q. AND THIS WAS WHILE YOU WERE AT ICC?

8 A. YES.

9 Q. AND I JUST WANT TO QUICKLY TAKE A LOOK AT THE VERY
10 LAST PAGE, WHICH IS PAGE 7.

11 MR. RENARD: AND IF WE COULD JUST BLOW UP THE
12 LAST HALF OF THAT COLUMN.

13 Q. AND, SIR, THIS IS -- THIS IS YOUR 1999 PATENT. I
14 SAY, "YOUR." YOU WERE ONE OF THE NAMED INVENTORS?

15 A. YES.

16 Q. THERE IS A REFERENCE HERE TO A METHOD OF BLACKENING
17 EFFECTED BY PAINTING SAID SURFACE, CORRECT?

18 A. YES.

19 Q. NOW, WE COULD LOOK ELSEWHERE IN THE DOCUMENT, BUT LET
20 ME JUST ASK YOU, WHAT SURFACE ARE YOU REFERRING TO THERE?

21 A. THE INTERIOR SURFACE OF THE COLDSHIELD.

22 Q. AND YOU ALSO MENTIONED RIGHT ABOVE THAT A ROUGHENED
23 SURFACE IS BLACKENED?

24 A. YES.

25 Q. FLAT PAINT, WHICH IS PART OF NUMBER 10, YOU ALSO

1 UNDERSTAND THAT'S THE PAINT PART OF NUMBER 7?

2 A. THAT'S CORRECT.

3 Q. WHAT -- WHAT IS A --

4 MR. RENARD: WE CAN TAKE THAT DOWN,

5 MR. STEPANEK.

6 Q. WHAT IS A FLAT PAINT AND WHAT IS ITS OPPOSITE OR --

7 OR WHAT OTHER TYPES OF PAINT CAN YOU HAVE?

8 A. WELL, YOU COULD HAVE A GLOSSY PAINT, I GUESS.

9 Q. AND WHAT WOULD BE THE DIFFERENCE BETWEEN A GLOSSY AND
10 A PAINT FOR ANTIREFLECTION PURPOSES?

11 A. WELL, THERE'S NOT AS MUCH DIFFERENCE AS YOU WOULD
12 THINK, BUT -- BUT YOU WOULD PRESUME THAT A GLOSSY PAINT IS
13 GOING TO REFLECT MORE.

14 Q. AND WE'LL TALK A LITTLE BIT MORE, SIR, ABOUT THE
15 PAINT WHEN WE DEAL WITH -- WITH NUMBER 10, BUT LET ME ASK YOU,
16 WHAT IS YOUR UNDERSTANDING OF WHAT PAINT INDIGO USES?

17 A. MY UNDERSTANDING IS THEY USE A PAINT -- THEY
18 OPTIONALLY USE A PAINT, BUT THE PAINT THAT THEY USE IS -- IS
19 AKZO NOBEL 422X.

20 Q. 422X, IS THAT THE SAME THING, DO YOU KNOW, AS CTL-15?

21 A. IT IS NOT.

22 Q. IS THAT THE SAME THING AS CAT-A-LAC BLACK?

23 A. NO.

24 Q. SIR, YOU ALSO TALKED ABOUT A -- A FILLED ADHESIVE WAS
25 THE THIRD PART OF THIS THREE-PART ALLEGED TRADE SECRET,

1 CORRECT?

2 A. YES.

3 Q. AND WHAT IS THE FILLER THAT RAYTHEON CLAIMS HERE?

4 A. INSB POWDER.

5 Q. NOW, IS -- CAN YOU TELL US WHETHER OR NOT THE USE OF

6 A FILLER IN AN ADHESIVE FOR PURPOSES OF CONTROLLING STRAY

7 LIGHT, WHETHER THAT WAS SOMETHING COMMONLY KNOWN IN THE

8 INFRARED INDUSTRY?

9 A. WELL, IT WAS CERTAINLY KNOWN TO ME. WE USED AN

10 ALUMINA-FILLED EPOXY FOR EXACTLY THAT PURPOSE.

11 Q. IS INSB, THAT IS, INDIUM ANTIMONIDE, A KNOWN LIGHT

12 ABSORBER?

13 A. ABSOLUTELY. THAT'S WHY DETECTORS ARE MADE WITH IT.

14 Q. I WAS GOING TO ASK THAT. JUST TO REMIND EVERYONE,

15 THE ACTUAL DETECTOR MATERIAL THAT WE'VE TALKED ABOUT IN THE

16 COURSE OF THIS CASE WITH RESPECT TO COOLED CAMERAS IS MADE OUT

17 OF WHAT?

18 A. INSB.

19 Q. AND TO STATE THE OBVIOUS, WHY INSB?

20 A. WELL, IT'S -- IT'S A VERY GOOD ABSORBER. WE'LL START

21 THERE. THERE'S OTHER ELECTRICAL REASONS, BUT IT'S A VERY GOOD

22 ABSORBER TO BEGIN.

23 Q. SO, CAN YOU TELL US, GIVEN KNOWN PROPERTIES OF INSB,

24 IN FACT, ITS USE AS A DETECTOR MATERIAL, WHETHER OR NOT THE USE

25 OF INSB AS A FILLER FOR PURPOSES OF ABSORBING STRAY LIGHT,

1 WHETHER THAT IS AN OBVIOUS SOLUTION AMONG SOLUTIONS TO THE
2 STRAY LIGHT FILLERS?

3 A. IF YOU HAD A LOT OF INSB POWDER, I WOULD THINK YOU
4 WOULD USE IT FOR THAT PURPOSE.

5 Q. LET'S GO TO NUMBER 10, WHICH IS THE USE OF
6 EPOXY-BASED FLAT BLACK PAINT IN A DETECTOR DEWAR ASSEMBLY. AND
7 I DON'T THINK WE NEED TO -- TO REVISIT THIS, BUT YOU HAVE
8 REVIEWED THE TEXTBOOK CITATIONS THAT PREDATED 1999 THAT I HAVE
9 SHOWN MR. BLACK AND MR. HOLCOMBE IN THE COURSE OF
10 CROSS-EXAMINATION?

11 A. YES.

12 Q. AND YOU'VE REVIEWED THE LANGAN 1976 PAPER?

13 A. IN GREAT DETAIL.

14 Q. AND YOU'VE REVIEWED OTHER MATERIALS THAT MADE
15 REFERENCE TO CAT-A-LAC BLACK OR CTL-15?

16 A. YES.

17 Q. CAN YOU TELL US, BASED UPON THAT AND YOUR OWN
18 EXPERIENCE IN THE INDUSTRY, MR. KNAUTH, WHETHER OR NOT THE --
19 THE USE OF THOSE PAINTS WAS COMMONLY KNOWN IN THE INFRARED
20 INDUSTRY --

21 A. ABSOLUTELY.

22 Q. -- AS OF 1999?

23 A. YES.

24 Q. LET'S TURN TO -- WHILE WE'RE -- LET'S START TALKING
25 ABOUT SOME OF THE ADHESIVES THAT ARE AT ISSUE IN THIS LAWSUIT.

1 STARTING WITH NUMBER 2, THE USE OF SILICON ADHESIVE FOR FPA
2 MOUNTING, CAN YOU TELL US, BASED UPON YOUR EXPERIENCE IN THE
3 INDUSTRY AND YOUR KNOWLEDGE OF THE INDUSTRY WHETHER, IN THAT
4 TIME FRAME, 1996 THROUGH 2000, USE OF 93-500 IN VACUUM AND
5 CRYOGENIC APPLICATIONS WAS COMMONLY KNOWN WITHIN THE INDUSTRY?

6 A. WE CERTAINLY KNEW OF ITS USE.

7 Q. YOU'VE HEARD REFERENCE IN THIS LAWSUIT TO THE NASA
8 OUTGASSING DATA, CORRECT?

9 A. YES.

10 Q. AND YOU'VE HEARD EITHER MR. BLACK OR MR. HOLCOMBE
11 MAKE REFERENCE TO THE FACT, WELL, SURE, YOU HAVE SOME OF THESE
12 ADHESIVES THAT ARE AT ISSUE IN THIS CASE THAT ARE LISTED THERE,
13 BUT THE LISTS OF ADHESIVES GO ON FOR PAGES OR WORDS TO THAT
14 EFFECT; DO YOU RECALL THAT?

15 A. YES, I DO.

16 Q. HOW MANY OF THE NASA SILICON ADHESIVES THAT ARE
17 LISTED IN THAT NASA DATA PASS THE CRYOGENIC TEST, IN OTHER
18 WORDS, ARE USABLE IN CRYOGENIC CONDITIONS?

19 A. WELL, I'M NOT SURE IF THAT'S THE PURPOSE OF THE LIST.
20 ARE YOU REFERRING TO OUTGASSING?

21 Q. YES, SIR. I MEAN, HAVE YOU YOURSELF GONE THROUGH
22 THAT LIST AND -- AND LOOKED AT HOW MANY OF THOSE THAT ARE
23 ACTUALLY LISTED ARE APPROPRIATE FOR USE?

24 A. FOR OUTGASSING USE IN NASA SPACECRAFT. I HAVE. AND
25 MY COUNT WAS A TOTAL OF 11.

1 Q. HAVE YOU REVIEWED THE DEPOSITION TESTIMONY OF
2 MR. LARSON OF DOW CORNING?

3 A. YES.

4 Q. AND, SIR, BASED UPON -- AND BEFORE I GET THERE, DOES
5 INDIGO USE 93-500 TODAY FOR PERMANENT MOUNTING OF ITS
6 COLDSHIELDS?

7 A. NO.

8 Q. DOES IT USE 93-500 FOR ANY OTHER PURPOSE?

9 A. I BELIEVE THAT IT DOES.

10 Q. NOW -- AND YOU SEE THAT THIS PARTICULAR ALLEGED TRADE
11 SECRET NUMBER 2, USE OF A SILICONE ADHESIVE IS FOR AN FPA
12 MOUNTING?

13 A. YES.

14 Q. NOW, DOES RAYTHEON USE 93-500 TODAY?

15 A. NO.

16 Q. WHAT DOES IT USE?

17 A. IT USES A MATERIAL CALLED CV -- NUSIL CV 2500, AND
18 THEN SOME OF THE DOCUMENTS SUGGESTED TO ME THEY'RE ACTUALLY
19 MOVING AWAY FROM THAT TO ANOTHER MATERIAL, WHICH IS CV 2500,
20 AND THEN THERE'S A 16 EITHER AS A PREFIX OR A SUFFIX.

21 Q. AND WHEN IN THE TIME LINE DID RAYTHEON CEASE USING
22 93-500 FOR FPA MOUNTING?

23 A. IN 1995, AND I THINK FOR ALL APPLICATIONS.

24 Q. 1995?

25 A. 1995.

1 Q. AND IT WENT TO SOMETHING CALLED CV 2500?

2 A. YES.

3 Q. HAVE YOU HEARD TESTIMONY FROM RAYTHEON THAT THOSE
4 ARE, FOR ALL INTENTS AND PURPOSES, THE SAME ADHESIVE, MEANING
5 93-500 AND THE NEW GLUE THAT THEY BEGAN USING IN 1995, CV 2500?

6 A. WELL, I -- I GUESS I'VE HEARD CONFLICTING TESTIMONY.

7 Q. WHY DON'T YOU SET US STRAIGHT THERE. ARE THEY THE
8 SAME?

9 A. NO.

10 Q. AND TO WHAT EXTENT DO THEY DIFFER IN THEIR
11 COMPOSITION?

12 A. WELL, THE MANUFACTURERS OF MATERIALS LIKE THIS, YOU
13 KNOW, HAVE BEEN REQUIRED TO PRODUCE MATERIAL SAFETY DATA
14 SHEETS. YOU CAN LOOK AT THAT FOR THE HAZARDOUS PORTIONS OF
15 THEIR FORMULATIONS, AND FOR WHAT THEY HAVE -- HAVE DISCLOSED AS
16 HAZARDOUS, THERE ARE NO CONSTITUENTS THAT ARE COMMON BETWEEN
17 THOSE TWO PRODUCTS.

18 Q. MEANING THEY'RE EACH -- THEY'RE MUTUALLY EXCLUSIVE?

19 A. THEY'RE CHEMICALLY DIFFERENT.

20 Q. NOW, HAVE YOU FORMED AN OPINION WHETHER OR NOT THE
21 USE OF 93-500 IN DEWARS BACK IN 1999 WAS WELL KNOWN -- A
22 WELL-KNOWN INDUSTRY PRACTICE?

23 A. I THINK IT WAS WELL KNOWN.

24 Q. LET'S TALK ABOUT NUMBER 4, THE USE OF EC-2216
25 ADHESIVE FOR VACUUM AND CRYOGENIC PACKAGING. DURING THE PERIOD

1 1996 THROUGH 2000, WERE YOU AWARE AND DID YOU HAVE KNOWLEDGE OF
2 THE USE WITHIN THE INFRARED INDUSTRY OF EC-2216 FOR VACUUM
3 PURPOSES?

4 A. FOR VACUUM PURPOSES?

5 Q. AND CRYOGENIC ENVIRONMENTS.

6 A. YEAH. I'M NOT SURE I HAD PERSONAL KNOWLEDGE IN THAT
7 TIME FRAME. JUST A LITTLE BEYOND THAT, I DID.

8 Q. OKAY. THEN, I -- PERHAPS I SHOULDN'T HAVE LIMITED
9 MYSELF. AT SOME POINT IN TIME IN YOUR CAREER WITH ICC, CAN YOU
10 TELL US WHETHER OR NOT YOU BECAME AWARE OF EC-2216 --

11 A. YES.

12 Q. -- FOR USES SUCH AS IN DEWARS?

13 A. YES.

14 Q. AND CAN YOU TELL US BASED UPON YOUR EXPERIENCE AND
15 REVIEW WHETHER THE USE OF 2216 FOR VACUUM AND CRYOGENIC
16 PACKAGING IS CONSIDERED WELL KNOWN IN INFRARED INDUSTRY?

17 A. I THINK THAT IT IS.

18 Q. YOU HAVE SEEN -- AND WE NEED NOT REPEAT OURSELVES OR
19 PUT THIS UP ON THE SCREEN -- BUT YOU HAVE SEEN THE PUBLIC DATA
20 THAT 3M HAS RELEASED AND, IN FACT, RELEASED BACK IN 1999 WITH
21 RESPECT TO EC-2216, CORRECT?

22 A. YES.

23 Q. AND REMIND US, BACK THEN, AND TODAY, DOES 3M -- CAN
24 YOU TELL US WHETHER OR NOT 3M RECOMMENDS THAT FOR CRYOGENIC
25 APPLICATIONS?

1 A. YES, THEY SAY IT'S EXCELLENT FOR CRYOGENIC BONDING
2 APPLICATIONS.

3 Q. CAN YOU TELL US WHETHER OR NOT 3M PUBLISHES
4 OUTGASSING DATA IN ITS PUBLICLY AVAILABLE PRODUCT SPEC SHEETS
5 FOR 2216?

6 A. YES, THEY DO.

7 Q. AND DOES IT GIVE SOME PERFORMANCE DATA WITH RESPECT
8 TO USAGE IN TEMPERATURE -- CRYOGENIC TEMPERATURES?

9 A. YES, IT DOES.

10 Q. DOES 3M PUBLISH TO THE PUBLIC AND ANYONE WHO MAKES
11 INQUIRY, AND DID IT DO SO IN 1999, GIVING THE THERMAL
12 CONDUCTIVE PROPERTIES OF EC-2216?

13 A. YES.

14 Q. AND CAN YOU TELL US WHETHER OR NOT NASA HAS PUBLISHED
15 OUTGASSING DATA WITH RESPECT TO 2216, WHETHER IT DID SO BACK IN
16 1999?

17 A. YES, THEY DID.

18 Q. IN FACT, MR. KNAUTH, CAN YOU TELL US HOW FAR BACK
19 NASA BEGAN PUBLICLY DISCLOSING OUTGASSING DATA FOR THINGS LIKE
20 ADHESIVES AND MATERIALS AND COMPOUNDS AND PARTS?

21 A. YEAH, IT WAS VERY EARLY. I'M GOING TO GUESS BACK IN
22 THE '60'S. I CERTAINLY KNEW OF IT WHEN I STARTED ENGINEERING
23 WORK IN 1997.

24 Q. DO YOU RECALL SOME TESTIMONY --

25 A. '87. I'M SORRY, 1987.

1 Q. OKAY. DO YOU RECALL SOME TESTIMONY FROM SOME OF
2 RAYTHEON'S EXPERTS TO THE -- TO THE EFFECT THAT THE USE OF 2216
3 INVOLVES A WHOLE ECOSYSTEM --

4 A. YES.

5 Q. -- OF -- OF THINGS DONE? AND WHAT DID YOU UNDERSTAND
6 THAT TO -- TO MEAN, AT LEAST BASED UPON THE TESTIMONY YOU
7 HEARD?

8 A. WELL, THE COMPOUNDING IN LARGE BATCHES, ADDING THINGS
9 TO IT TO CHANGE ITS PROPERTIES, YOU KNOW, STORING ALL SORTS OF
10 DIFFERENT THINGS, A WHOLE ECOSYSTEM WAS DESCRIBED.

11 Q. AND WHEN IS THE FIRST TIME YOU HEARD THAT THIS TRADE
12 SECRET INVOLVED A SO-CALLED WHOLE ECOSYSTEM?

13 A. AT THIS TRIAL.

14 Q. IT WAS NOT PREVIOUSLY DISCLOSED LEADING UP TO TRIAL
15 IN PRIOR REPORTS OF RAYTHEON'S EXPERTS?

16 A. I DON'T -- I DON'T THINK SO.

17 Q. BUT IN ANY EVENT, SIR, WITH RESPECT TO INDIGO'S USE
18 OF 2216, DOES IT HAVE ANY SPECIAL MIXING PROCEDURES OR METHODS?

19 A. IT DOES NOT.

20 Q. HOW DOES IT USE 2216 IN ITS FORM?

21 A. IT BUYS IT PREMIXED IN A SYRINGE FROM A VENDOR.

22 Q. NOW, BASED UPON YOUR REVIEW -- LET'S TAKE A STEP
23 BACK.

24 EC-2216, IS THAT A -- A UNIFORM SINGULAR
25 ADHESIVE, OR ARE THERE DIFFERENT KINDS OF 2216?

1 A. THERE'S THREE DIFFERENT TYPES THAT I'M AWARE OF.

2 Q. WHAT ARE THEY?

3 A. THERE'S GRAY, THERE'S TRANSLUCENT, AND THEN THERE'S A
4 TAN OR AMBER.

5 Q. I THINK OF THE CAULKS THAT YOU CAN GET AT THE
6 HARDWARE STORE THAT COME IN DIFFERENT COLORS. IS THAT JUST A
7 COLOR DIFFERENCE, OR DOES IT GO BEYOND THAT?

8 A. DEFINITELY GOES BEYOND THAT. DIFFERENT CHEMICAL
9 MAKE-UP, DIFFERENT PROPERTIES.

10 Q. AND IN FACT, WHEN WE LOOKED AT THE EC-2216 PRODUCT
11 SPEC SHEET, DO YOU RECALL THERE BEING DIFFERENT COLUMNS FOR
12 THOSE THREE DIFFERENT PRODUCTS?

13 A. YES.

14 Q. DO THOSE DIFFERENT PROPERTIES ASSOCIATED WITH EACH OF
15 THOSE COLORS, THE TRANSLUCENT AND THE GRAY, FOR INSTANCE, DO
16 THEY MATTER IN THE CHOICE OF AN ADHESIVE?

17 A. YEAH, ABSOLUTELY.

18 Q. IN WHAT WAY?

19 A. WELL, THERE'S THERMAL CONDUCTIVITY, THERE'S -- THE
20 STRENGTH OF THE BONDS, ALL SORTS OF DIFFERENT ASPECTS OF IT.
21 THE CURE TIME.

22 Q. IF WE WERE TO TALK IN TERMS OF A TERM I'VE TRIED TO
23 USE THROUGHOUT, RECIPES, WOULD THOSE DIFFERENCES IN ANY WAY
24 RELATE TO THE RECIPE FOR -- FOR USE OF AND APPLICATION OF AN
25 ADHESIVE?

1 A. YES.

2 Q. NOW, WHAT EC-2216 FORM HAS INDIGO USED?

3 A. THEY USE EXCLUSIVELY THE TRANSLUCENT VARIETY.

4 Q. AND WITH RESPECT TO THE USE OF 2216 WITHOUT FILLERS
5 OR ANYTHING, WHAT VERSION OF 2216 HAS RAYTHEON USED, BASED UPON
6 YOUR INVESTIGATION?

7 A. BASED UPON MY INVESTIGATION, THEY USE -- CONSISTENTLY
8 USE THE GRAY VERSION.

9 Q. DO THEY EVER USE THE TRANSLUCENT VERSION?

10 A. YES, THEY DO. THEY USE THAT WITH SOME OF THE OTHER
11 FILLERS.

12 Q. CAN YOU TELL US, BASED UPON YOUR EXPERIENCE IN THE
13 INDUSTRY, WHETHER OR NOT THE USE OF EC-2216 FOR VACUUM AND
14 CRYOGENIC PACKAGING PURPOSES WAS COMMONLY KNOWN WITHIN THE
15 INFRARED INDUSTRY?

16 A. YEAH, I THINK THAT IT WAS. I THINK IT WAS.

17 Q. I THEN WANT TO GO TO NUMBER 27 SINCE WE'RE TALKING
18 ABOUT ADHESIVES. AND I THINK THIS -- NO, WE HAVE ONE MORE
19 AFTER THIS, THE THIRD ADHESIVE CATEGORY THAT WE TALKED ABOUT.

20 NUMBER 27 IS USE OF ALUMINA-FILLED EC-2216
21 ADHESIVE. AND CAN YOU TELL US WHETHER OR NOT ALUMINA IS A
22 COMMON ADDITIVE AGENT OR FILLER?

23 A. YES, IT ABSOLUTELY IS.

24 Q. SOMETHING WE HAVEN'T TALKED ABOUT, MR. KNAUTH, IN
25 YOUR EXPERIENCE, DOING WHAT YOU -- YOU DID FOR ICC AND -- AND

1 YOUR PRESENT EMPLOYER, ARE YOU INVOLVED IN -- IN SELECTION OF
2 GLUES AND ADHESIVES AND IN QUALIFYING THOSE FOR USE IN VACUUM
3 PACKAGES?

4 A. YES, I AM.

5 Q. YOU HAVE USED -- OR HAVE YOU USED ALUMINA AS A
6 FILLER?

7 A. YES, I HAVE.

8 Q. AND YOU, AGAIN, HEARD THE TESTIMONY OF -- OF AT LEAST
9 ONE OF THE SUPPLIERS, HAVE YOU NOT, REGARDING WHETHER OR NOT
10 ALUMINA IS A COMMON FILLER?

11 A. YES.

12 Q. AND CAN YOU TELL US WHAT EFFECT, IF ANY, THE ADDITION
13 OF ALUMINA INTO AN ADHESIVE DOES WITH RESPECT TO THE THERMAL
14 CONDUCTIVITY?

15 A. IT INCREASES IT.

16 Q. WITHOUT TOO MUCH OF A -- OF A LECTURE THAT MAY BE
17 OVER OUR HEADS, CAN YOU JUST EXPLAIN WHY PUTTING ALUMINA INTO
18 AN ADHESIVE INCREASES THE THERMAL CONDUCTIVITY?

19 A. YEAH, AND IN PARTICULAR, FOR A CRYOGENIC APPLICATION,
20 ONE PROPERTY OF ALUMINA, IF YOU LOOK AT THIS TOULOUKIAN
21 REFERENCE WE'VE TALKED ABOUT, THERE IS A GRAPH OF THERMAL
22 CONDUCTIVITY VERSUS TEMPERATURE OVER A VERY WIDE RANGE. AND
23 THE INTERESTING ASPECT OF ALUMINA IS THAT ITS PEAK THERMAL
24 CONDUCTIVITY IS AT 77 KELVIN, EXACTLY WHERE YOU WANT IT TO BE
25 CONDUCTED, SO IT'S LIKE THE PERFECT MATERIAL FOR THAT.

1 Q. AND WHY IS IT THAT YOU WANT -- WELL, TAKING A STEP
2 BACK, THERMAL CONDUCTIVITY, JUST REMIND US, THAT MEANS WHAT IN
3 TERMS OF IF YOU'RE TRYING TO ACHIEVE A COLD ENVIRONMENT?

4 A. RIGHT. WELL, THERE ARE A COUPLE OF ASPECTS OF THAT.
5 THE BOND JOINTS TO THE -- BETWEEN THE COLD FINGER AND THE OTHER
6 PARTS OF THE SYSTEM, YOU WANT THOSE TO BE HIGH THERMAL
7 CONDUCTIVITY SO THAT YOU CAN QUICKLY CONDUCT THE HEAT OUT AND
8 INTO THE REFRIGERATION SYSTEM. WE ALSO TALKED ABOUT WIRES, AND
9 THERE, YOU WANT LOW THERMAL CONDUCTIVITY. SO THERE ARE
10 DIFFERENT OBJECTIVES DEPENDING ON WHAT PART OF THE SYSTEM
11 YOU'RE LOOKING AT.

12 Q. YOU MENTIONED THAT THE PEAK THERMAL CONDUCTIVITY OF
13 ALUMINA IS 77 DEGREES KELVIN. IS THERE ANY OTHER POSSIBLE
14 CANDIDATE YOU CAN THINK OF FOR INCLUSION AS A FILLER IN AN
15 ADHESIVE THAT HAS AS GOOD OF CRYOGENIC THERMAL CONDUCTIVITY
16 PROPERTIES?

17 A. WELL, ALUMINUM NITRIDE, BERYLLIUM OXIDE COME TO MIND.

18 Q. OKAY. BUT THIS IS ONE, CERTAINLY, THAT WORKS IN THE
19 CRYOGENIC ATMOSPHERE?

20 A. YES, AND IT'S CHEAP.

21 Q. AND IT'S ONE THAT YOU HAVE YOURSELF SPECIFIED?

22 A. YES, I HAVE.

23 Q. LET ME ASK YOU, SIR, THE NOTION OF ALUMINA AS A
24 FILLER INTO AN ADHESIVE FOR CRYOGENIC THERMAL CONDUCTIVITY
25 PURPOSES, IS THAT SOMETHING THAT YOU UNDERSTAND, BASED UPON

1 YOUR REVIEW, TO BE WELL KNOWN WITHIN THE INFRARED INDUSTRY?

2 A. YES.

3 Q. AND IS IT ALSO SOMETHING BASED UPON YOUR REVIEW THAT
4 YOU BELIEVE IS OBVIOUS FOR PURPOSES OF THERMAL CONDUCTIVITY?

5 A. YES.

6 Q. AND IF WE TALK ABOUT RECIPES, WHAT WOULD GO INTO A
7 RECIPE FOR DETERMINING ALUMINA AS A FILLER? WHAT -- WHAT ARE
8 YOUR PROCESS PARAMETERS OR SIZE OR TEMPERATURE PARAMETERS, IF
9 THERE ARE ANY?

10 A. WELL, THE FIRST THING WOULD BE WHAT IS THE PARTICLE
11 SIZE OF THE ALUMINA, AND THEN THE SECOND THING WOULD BE WHAT IS
12 THE FILL PERCENTAGE, USUALLY BY WEIGHT.

13 Q. AND FILL PERCENTAGE, WE'RE TALKING ABOUT A RELATION
14 OF WHAT TO WHAT?

15 A. OF THE AMOUNT OF ALUMINA TO THE AMOUNT OF EPOXY, OR
16 THE BASE EPOXY.

17 Q. AND THAT COULD VARY --

18 A. WELL, ZERO TO -- CAN'T QUITE GO TO A HUNDRED PERCENT
19 BECAUSE IT'S NO LONGER AN EPOXY, BUT GO UP THERE A LITTLE WAYS.

20 Q. SO I THINK YOU TALKED ABOUT RELATIVE AMOUNT BY
21 WEIGHT?

22 A. CORRECT.

23 Q. THAT'S THE WAY YOU THINK OF IT RATHER THAN VOLUME?

24 A. WEIGHT IS EASY -- EASY TO MEASURE IT THAT WAY.

25 Q. AND YOU ALSO TALKED ABOUT PARTICLE SIZE. ARE YOU

1 TALKING ABOUT THE PARTICLES OF ALUMINA?

2 A. CORRECT.

3 Q. AND YOU CAN BUY IT OR GET IT IN DIFFERENT SIZES?

4 A. YES, YOU CAN.

5 Q. AND DOES THAT MATTER WHEN YOU'RE MIXING THIS TOGETHER
6 FOR USE AS A FILL MATERIAL?

7 A. OH, YEAH, ABSOLUTELY.

8 Q. IN WHAT WAY?

9 A. WELL, IT CHANGES THE THERMAL CONDUCTIVITY, AND IT
10 CHANGES THE BONDING SUCCESS FOR CERTAIN APPLICATIONS.

11 Q. NOW, AGAINST THAT BACKGROUND, CAN YOU TELL US WHETHER
12 OR NOT THE RECIPES THAT YOU'VE DESCRIBED DIFFER BETWEEN WHAT
13 RAYTHEON DOES AND WHAT INDIGO DOES TO THE EXTENT INDIGO USES AN
14 ALUMINA FILLED 2216?

15 A. WELL, ONE OF THE ASPECTS OF THIS ECOSYSTEM, IF YOU
16 WILL, IN THE RAYTHEON PRACTICE IS TO VARY THE AMOUNT OF ALUMINA
17 DEPENDING ON THE APPLICATION, AND SO THEY SHOWED TWO DIFFERENT
18 EXAMPLES. I THINK ONE WAS 71 PERCENT AND 43 PERCENT AS WELL AS
19 VARIANT PARTICLE SIZE. I SAW TWO DIFFERENT PARTICLE SIZES.

20 INDIGO, ON THE OTHER HAND, ONLY SPECIFIES ONE
21 FILL PERCENTAGE WHICH DOESN'T OVERLAP WITH THE RAYTHEON FILL
22 PERCENTAGES AT ALL AND ONLY ONE PART.

23 Q. SO, LET'S TURN, THEN, TO I THINK, THE FOURTH AND LAST
24 OF THE ADHESIVE CATEGORIES, AND THAT'S NUMBER 15, USE OF GLASS
25 BEAD-FILLED ADHESIVE FOR BOND JOINT CONTROL. ARE YOU GENERALLY

1 FAMILIAR WITH THE USE OF GLASS BEADS FOR BONDLINE CONTROL IN
2 INFRARED ASSEMBLY?

3 A. YES.

4 Q. HOW ARE YOU FAMILIAR WITH IT?

5 A. IT WAS RECOMMENDED TO ME BY A COLLEAGUE FOR EXACTLY
6 THAT APPLICATION.

7 Q. AND HAVE YOU REVIEWED THE TESTIMONY OF, FOR INSTANCE,
8 KENT LARSON AT DOW CORNING?

9 A. YES.

10 Q. VINCE LOUNG OF LOCKHEED MARTIN?

11 A. YES.

12 Q. SIR, BASED UPON YOUR INVESTIGATION AND YOUR PERSONAL
13 EXPERIENCE IN THE INFRARED BUSINESS, IS THE USE OF -- CAN YOU
14 TELL US WHETHER OR NOT THE USE OF GLASS BEAD-FILLED ADHESIVE
15 FOR BOND JOINT CONTROL IS GENERALLY KNOWN IN THE INFRARED
16 INDUSTRY?

17 A. YES, IT IS.

18 Q. AND WAS IT IN THE PERIOD 1996 THROUGH 2000?

19 A. YES.

20 Q. IN YOUR REVIEW OF -- AND BY THE WAY, I THINK WE
21 TALKED WITH OTHER EXPERTS ABOUT THE PROCESS TRAVELERS AND --
22 AND ASSEMBLY INSTRUCTIONS. HAVE YOU SEEN THOSE KINDS OF
23 DOCUMENTS AS THEY APPLY TO THE -- TO THE AREAS THAT YOU
24 EXAMINED?

25 A. YES.

1 Q. CAN YOU TELL US WHAT -- BASED UPON YOUR REVIEW,
2 WHETHER OR NOT INDIGO REQUIRES THE USE OF GLASS BEADS IN ITS
3 ASSEMBLY?

4 A. IT APPEARS TO BE OPTIONAL ON THE PART OF THE
5 OPERATOR.

6 Q. AND -- MEANING WHAT?

7 A. MEANING THAT YOU WOULD USE IT OR NOT USE IT.

8 Q. AND HOW DOES THAT CONTRAST, IF IT DOES, WITH
9 RAYTHEON'S SPECS?

10 A. WELL, RAYTHEON SPECS REQUIRE IT. THEY SPECIFY THAT
11 IT'S SUPPOSED TO BE THERE.

12 Q. LET'S THEN MOVE TO NUMBER 5, MECHANICAL ISOLATION
13 BETWEEN THE FPA PLATFORM MOTHERBOARD AND COLD FINGER.

14 THE COURT: MR. RENARD, BEFORE WE GO THERE,
15 WE'VE BEEN IN HERE SINCE 8:30, SO LET'S TAKE A 15-MINUTE
16 RECESS.

17 MR. RENARD: OKAY, FINE, YOUR HONOR.

18 THE COURT: LADIES AND GENTLEMEN, WE'LL TAKE A
19 15-MINUTE RECESS.

20 COURT SECURITY OFFICER: ALL RISE.

21 (JURY NOT PRESENT)

22 THE COURT: WE'LL BE IN RECESS 15 MINUTES.

23 (A BREAK WAS TAKEN AT 10:50 A.M.)

24 (JURY NOT PRESENT)

25 THE COURT: JUST KEEP YOUR SEATS.

1 ARE YOU READY TO RESUME, MR. RENARD?

2 MR. RENARD: YES, YOUR HONOR.

3 THE COURT: OKAY. EVERYONE'S HERE, SO LET'S GO
4 AHEAD. MR. SERRATO, GO AHEAD AND BRING IN THE JURY.

5 (JURY PRESENT)

6 THE COURT: ALL RIGHT. BE SEATED, PLEASE. AND
7 MR. RENARD?

8 MR. RENARD: THANK YOU, YOUR HONOR.

9 EXAMINATION

10 BY MR. RENARD:

11 Q. BEFORE I GO FURTHER, MR. KNAUTH, I JUST WANT TO COVER
12 A COUPLE OF THINGS WITH RESPECT TO A PRIOR TOPIC, AND THAT'S
13 THE 93-500 ADHESIVE. LET ME ASK YOU, HAS INDIGO EVER USED CV
14 2500, WHICH I UNDERSTAND IS THE ADHESIVE THAT RAYTHEON SWITCHED
15 TO IN 1995?

16 A. NO.

17 Q. AND DOES DOW CORNING PREPARE SPECIFICATION SHEETS, OR
18 CAN YOU TELL US WHETHER THEY ISSUE, PUBLICLY, SPECIFICATION
19 SHEETS THAT LIST THE PROPERTIES OF 93-500?

20 A. YES, THEY DO.

21 Q. I WANT TO TURN NOW, SIR, TO NUMBER 5. I'M SORRY --
22 YES. ALLEGED TRADE SECRET NUMBER 5, WHICH IS WHERE WE LEFT
23 OFF. THE MECHANICAL ISOLATION BETWEEN THE FPA PLATFORM, SLASH,
24 MOTHERBOARD AND COLD FINGER. WHAT DO YOU UNDERSTAND TO BE THE
25 PROBLEM OR ISSUE THAT CALLED FOR SOME SORT OF RESOLUTION?

1 A. YEAH. THE -- INSIDE THE COLDFINGER, THERE'S THIS --
2 ESSENTIALLY IT'S KIND OF LIKE A PISTON. IT'S CALLED A
3 REGENERATOR, AND IT SHUTTLES UP AND DOWN AS THE GAS PULSES
4 ARE -- ARE SHOT INTO IT. AND SO THE -- BECAUSE IT SHUTTLES
5 BACK AND FORTH, IT -- IT CREATES, ON THE TOP OF THE -- OF THE
6 COLDFINGER, IT CREATES THIS LITTLE DEFORMATION, AND IT'S
7 PUSHING, AND IT'S DOING THAT 60 CYCLES A SECOND BECAUSE THAT'S
8 TYPICALLY THE -- THE FREQUENCY THAT THE -- THAT THE GAS IS
9 BEING PULSED IN AT. AND THAT CAUSES THE -- THE DETECTOR ARRAY
10 TO START TO FLEX, AND WHEN IT FLEXES, THERE'S A -- THERE'S AN
11 ELASTO-RESISTIVE EFFECT THEY CALL IT WHERE THE -- IT CHANGES
12 SENSITIVITY, BASICALLY, AND INTRODUCES A FALSE SIGNAL AS A
13 RESULT OF THAT FLEXION.

14 Q. HAVE YOU HEARD REFERENCES TO THE FALSE SIGNAL BEING
15 CHARACTERIZED AS EITHER A DRUMBEAT OR A HEARTBEAT, WORDS TO
16 THAT EFFECT, MR. KNAUTH?

17 A. YES, YES.

18 Q. NOW, IS THE -- WAS -- DURING THE PERIOD '96 THROUGH
19 2000, CAN YOU TELL US WHETHER OR NOT THE RECOGNITION OF THIS
20 PROBLEM WAS SOMETHING THAT WAS SHARED WITHIN THE INDUSTRY?

21 A. OH, ABSOLUTELY. EVEN BEFORE THAT.

22 Q. AND THE NOTION OF ISOLATION BETWEEN THE FPA PLATFORM
23 AND THE COLDFINGER, CAN YOU TELL US HOW THAT -- IF IT DOES
24 RESOLVE THIS HEARTBEAT PROBLEM?

25 A. YEAH. THERE'S THIS -- THIS LITTLE FLEXURE OF KIND OF

1 A DRUMBEAT THEY CALL IT, AND IF YOU'RE MOUNTING DIRECTLY ON
2 THAT INTERFACE, WELL, OBVIOUSLY, YOU'RE GOING TO BE MOVING BACK
3 AND FORTH. NOW, IF YOU JUST PUT A LITTLE BIT OF A GAP, IT'S
4 NOT MUCH OF A DEFORMATION -- YOU PUT A LITTLE BIT OF A GAP, AND
5 NOW THE COLDFINGER UNDERNEATH CAN DO ITS LITTLE DRUMBEATING
6 THING, BUT YOU'RE RESTING ON TOP OF THAT, SEPARATED BY A LITTLE
7 BIT OF A GAP, AND YOU'RE AVOIDING THE INTERFERENCE FROM ALL OF
8 THAT DRUM HAVING, IF YOU WILL.

9 Q. IS THERE AN ANALOGY YOU CAN GIVE US IN TERMS OF THE
10 SOLUTION HERE?

11 A. YEAH. YOU KNOW, IF -- IMAGINE THAT YOU'RE JUMPING ON
12 A TRAMPOLINE. THERE'S SOMEBODY JUMPING ON A TRAMPOLINE AND YOU
13 WANT TO JUMP ON IT TOO. YOU REALLY CAN'T, YOU KNOW. THE ONLY
14 WAY YOU CAN STAND ON A TRAMPOLINE IS BY STANDING ON ITS RIM
15 WHERE YOU'RE NOT IMPACTED BY THE JUMPING THAT'S GOING ON. SO,
16 THE -- THE LOGICAL SOLUTION TO THIS, AND I THINK THE ONE THAT
17 WAS CERTAINLY -- SEEMED LOGICAL TO ME, ANYWAY, AND TO ICC, WAS
18 TO AVOID CONNECTING TO THE TOP OF THE COLDFINGER AND INSTEAD
19 CONNECT TO ITS EDGE.

20 Q. AND, SIR, DID YOU CONFRONT THIS VERY PROBLEM AT ICC?

21 A. YES, WE DID.

22 Q. AND WHAT SOLUTION DID -- DID YOU AND YOUR COLLEAGUES
23 COME UP WITH?

24 A. WELL, THE PROBLEM --

25 Q. DID YOU AND YOUR COLLEAGUES COME UP WITH ANY GAP

1 SOLUTION?

2 A. YES, WE DID.

3 Q. HOW DID THAT COME ABOUT?

4 A. WELL, THE CUSTOMER IN THIS CASE, IT WAS AMBER
5 COMPLAINED, ABOUT THIS PROBLEM ON A PROJECT CALLED THE ASTEMAS
6 NIGHT GIANT PROGRAM WHICH HAD A LOT OF PROBLEMS TO THE POINT WE
7 CALLED IT THE GIANT NIGHTMARE PROGRAM. BUT THEY COMPLAINED
8 ABOUT THIS PROBLEM, AND SO WE STARTED TURNING ON THE CRYOCOOLER
9 AND TURNING IT OFF AND SEEING WHAT THE INTERFERENCE WAS, WHAT
10 WAS CAUSING THIS PROBLEM, BUT I THINK EVEN BEFORE THAT IT WAS
11 UNDERSTOOD BECAUSE WE WROTE ABOUT IT IN A PAPER. I THINK WE
12 WROTE ABOUT IT IN A PAPER IN 1992.

13 Q. AND --

14 A. COULD I JUST ADDRESS THAT JUST A LITTLE BIT MORE? I
15 THINK YOU ASKED, SPECIFICALLY, ABOUT THE GAP.

16 Q. YES, SIR.

17 A. THAT WAS NOT WRITTEN ABOUT IN '92. THAT, WE CAME UP
18 WITH IN '96, I THINK.

19 Q. NOW -- AND I'M SORRY, WHAT -- YOU CAUGHT MY
20 ATTENTION. 1996, WHAT HAPPENED?

21 A. THAT'S WHEN WE INTRODUCED THE USE OF THE GAP. THE
22 '92 PAPER JUST TALKED OF THE PROBLEM BUT NOT THE SOLUTION IN
23 THAT RESPECT.

24 Q. SO, IN '92, YOU RECOGNIZED THE PROBLEM?

25 A. YEAH, THE ICC DID AND PUBLISHED THAT.

1 Q. AND IN 1996, ICC CAME UP WITH A GAP SOLUTION?

2 A. YES.

3 Q. BASED UPON YOUR OWN EXPERIENCE, MR. KNAUTH, WOULD YOU
4 SAY THE NOTION OF A MECHANICAL OR GAP SOLUTION BETWEEN THE
5 MOTHERBOARD AND THE COLDFINGER WAS AT LEAST WELL KNOWN WITHIN
6 ICC?

7 A. OH, YEAH, DEFINITELY.

8 Q. AND DO YOU HAVE AN OPINION WHETHER OR NOT THAT WAS AN
9 OBVIOUS SOLUTION GIVEN YOUR TRAMPOLINE ANALOGY?

10 A. YEAH, I THINK IT ALWAYS WAS AN OBVIOUS SOLUTION. THE
11 ONLY MISSING PIECE OF INFORMATION IS, CAN YOU CONNECT TO THE
12 OUTSIDE OF THE COLDFINGER. AND WHEN THAT WAS EXPLAINED TO US
13 BY THE COLDFINGER MANUFACTURER, THEN YOU PUT TWO AND TWO
14 TOGETHER, AND IT WAS -- IT BECAME A VERY OBVIOUS SOLUTION.

15 Q. AND -- AND I DON'T THINK WE NEED TO DO THIS, SIR,
16 BECAUSE I THINK THAT THE JURY HAS SEEN IT AT LEAST A COUPLE
17 TIMES BEFORE, BUT DO YOU RECALL A PATENT WHICH WAS DEFENDANTS'
18 EXHIBIT 526 SHOWING A GAP BETWEEN THE COLDFINGER AND THE
19 MOTHERBOARD?

20 A. YES.

21 Q. AND WOULD IT BE FAIR TO SAY, BASED UPON THAT AND WHAT
22 YOU'VE ALREADY TESTIFIED TO, THAT THE NOTION OF A MECHANICAL
23 GAP ISOLATION BETWEEN THE COLDFINGER AND THE MOTHERBOARD WAS
24 WELL KNOWN WITHIN THE INDUSTRY AS OF 2000?

25 A. YES.

1 Q. LET'S GO TO A RELATED SUBJECT, THEN, WHICH IS NUMBER
2 6, THE USE OF ALUMINUM NITRIDE FOR THE MECHANICAL ISOLATOR
3 PLATFORM. AND -- AND I WOULD START BECAUSE THIS PERHAPS IS A
4 SEGUE BETWEEN THE TWO. DO YOU UNDERSTAND THAT PART OF THIS
5 ALLEGED TRADE SECRET IS AN ATTACHMENT THAT IS NOT AT THE TIP OF
6 THE COLDFINGER BUT IS ON THE SIDES OF THE COLDFINGER TOWARDS
7 THE TIP?

8 A. YES.

9 Q. CAN YOU TELL US WHETHER OR NOT THE CRYOGENIC COOLER
10 COMPANIES, THAT IS, THE COMPANIES THAT ACTUALLY SUPPLY THE
11 COOLER AND THE COLDFINGER AND THIS GENERATOR THAT YOU WERE
12 TALKING ABOUT, DO YOU HAVE ANY EXPERIENCE IN THEM EXPLAINING TO
13 MANUFACTURERS WHERE THE COLDEST PART OF THE COLDFINGER IS?

14 A. YES, THEY -- THEY DID.

15 MR. MCDOWELL: OBJECTION, YOUR HONOR, HEARSAY.

16 MR. RENARD: YOUR HONOR, THIS IS AN EXPERT
17 WITNESS TALKING ABOUT THE INDUSTRY STANDARDS. I'LL REPHRASE.

18 THE COURT: LET ME SEE WHAT THE QUESTION WAS.

19 DO YOU HAVE ANY EXPERIENCE IN THE COMPANIES THAT
20 SUPPLY COOLER AND THE COLDFINGER IN THEM EXPLAINING TO
21 MANUFACTURERS WHERE THE COLDEST PART OF THE COLDFINGER IS.
22 DOES HE HAVE ANY EXPERIENCE. SO, I REALLY DON'T KNOW WHAT THE
23 QUESTION IS.

24 MR. RENARD: I'LL REPHRASE.

25 THE COURT: THE EXPERIENCE IN LISTENING TO THOSE

1 CONVERSATIONS, IS THAT --

2 MR. RENARD: SURE.

3 THE COURT: -- WHAT YOU WANT TO ASK?

4 Q. (BY MR. RENARD) BASED UPON YOUR EXPERIENCE,
5 MR. KNAUTH, DO COLDFINGER MANUFACTURERS PROVIDE INFORMATION ON
6 WHERE THE COLDEST PART OF THAT APPARATUS IS?

7 A. YES.

8 Q. AND BASED UPON YOUR OWN PERSONAL EXPERIENCE IN
9 DEALING WITH SUCH MANUFACTURERS, WHERE DO YOU UNDERSTAND THE
10 COLDEST PART OF THE COLDFINGER IS?

11 A. WELL, NOT ON THE -- NOT ON THE FLAT SURFACE, BUT ON
12 THE CYLINDRICAL PORTION OF THE COLD TIP, TIP OF THE COLDFINGER.

13 Q. AND WITH RESPECT TO THE SELECTION OF ALUMINUM NITRIDE
14 FOR THIS MECHANICAL ISOLATOR, DO YOU RECALL SEEING -- AND I
15 DON'T THINK WE NEED TO -- TO PUT UP THE PATENTS, BUT
16 DEFENDANTS' EXHIBIT 497 AND EXHIBIT 520, THAT DISCLOSES THE USE
17 OF A -- AN ALUMINUM NITRIDE PLATFORM?

18 A. YES.

19 Q. NOW, DO YOU RECALL MR. HOLCOMBE TALKING ABOUT THE
20 MATERIAL ALUMINUM NITRIDE IN HIS TESTIMONY?

21 A. YES.

22 Q. AND DO YOU RECALL HIM SAYING WORDS TO THE EFFECT THAT
23 THIS IS AN IDEAL MATERIAL?

24 A. YES.

25 Q. DO YOU AGREE WITH HIM?

1 A. YEAH.

2 Q. WHY?

3 A. WELL, IT HAS A VERY GOOD THERMAL CONDUCTIVITY. IT'S
4 VERY SIMILAR TO MANY METALS, BUT THEY'RE METALS THAT YOU
5 WOULDN'T OTHERWISE USE BECAUSE THEY HAVE TOO MUCH THERMAL
6 EXPANSION. SO, THEY WOULD CAUSE PROBLEMS IN OTHER WAYS, BUT
7 THIS DOESN'T.

8 Q. NOW, DO INDIGO AND RAYTHEON ATTACH THESE PLATFORMS
9 EXACTLY AT THE SAME SPOT IN THE COLDFINGER? ARE THERE
10 DIFFERENT RECIPES?

11 A. FOR WHAT SPECIFIC THINGS?

12 Q. WELL, WITH RESPECT TO HOW -- UNDER WHAT CONDITIONS
13 THE ALUMINUM NITRIDE IS USED AND WHAT THE PARAMETERS ARE FOR
14 THE MATERIAL?

15 A. YES, YES.

16 Q. AND HAVE YOU ACTUALLY MADE A COMPARISON IN THE
17 DOCUMENTS OF RAYTHEON AND INDIGO?

18 A. YES.

19 MR. RENARD: WHY DON'T WE PULL UP DEFENDANTS'
20 EXHIBIT 962, PLEASE.

21 Q. HOPEFULLY, WE CAN DEAL WITH THIS ONE.

22 MR. RENARD: IF WE COULD ENLARGE THAT LOWER
23 RIGHT-HAND CORNER.

24 Q. DO YOU RECOGNIZE THIS DRAWING, MR. KNAUTH, AS A
25 RAYTHEON DRAWING FOR THE THERMAL SUPPORT?

1 A. YES.

2 Q. NOW, IS THERE INFORMATION ON THIS DOCUMENT THAT
3 RELATES TO WHAT I WOULD CALL A RECIPE, SOME PARAMETER?

4 A. YEAH. THE -- ONE OF THE MOST IMPORTANT PARAMETERS
5 HERE IS THERMAL CONDUCTIVITY. I BELIEVE THAT'S SHOWN IN THE
6 NOTES HERE.

7 MR. RENARD: PULL THIS OUT.

8 Q. AND I KNOW WE'VE HAD SOME PROBLEMS WITH THIS ON OTHER
9 DIAGRAMS THAT HAS PLAGUED BOTH RAYTHEON AND US IN LOOKING AT
10 SOME OF THIS.

11 MR. RENARD: CAN WE BLOW THAT UP.

12 Q. IS THERE INFORMATION HERE TO YOUR POINT ABOUT THERMAL
13 CONDUCTIVITY AND WHAT THE PROCESS PARAMETERS ARE FOR RAYTHEON?

14 A. YEAH, RAYTHEON REQUIRES A THERMAL CONDUCTIVITY
15 GREATER THAN 190 WATTS PER METER KELVIN.

16 Q. AND CAN YOU TELL US WHETHER OR NOT THIS RELATES TO
17 THE ALUMINUM NITRIDE PLATFORM?

18 A. YES, IT DOES.

19 Q. DOES INDIGO HAVE A DIFFERENT THERMAL CONDUCTIVITY
20 REQUIREMENT?

21 A. YES, THEY DO.

22 MR. RENARD: LET'S PULL UP EXHIBIT -- DEFENSE
23 EXHIBIT 115. JUST TO ORIENT OURSELVES, IF WE CAN ENLARGE THAT.
24 GO AHEAD AND DO THE WHOLE THING.

25 Q. DOES THIS LOOK LIKE THE DRAWING FOR THE RECTANGULAR

1 PLATFORM, THIS PARTICULAR ONE FOR THE PHOENIX CAMERA PROJECT?

2 A. YES.

3 MR. RENARD: THEN IF WE CAN GO BACK TO THE FULL
4 DOCUMENT. AND IF WE CAN BLOW THAT TOP PART UP.

5 Q. IS THERE A THERMAL CONDUCTIVITY MEASUREMENT HERE,
6 SIR?

7 A. YES, THERE IS.

8 Q. AND I THINK FAIRLY STATED, LET ME JUST READ THIS FROM
9 WHAT I UNDERSTAND IS YOUR REPORT. 140 WW/MK MINIMUM THERMAL
10 CONDUCTIVITY?

11 A. YES.

12 Q. IS THAT THE 140 RIGHT THERE?

13 A. YES, I'VE SEEN A -- I'VE SEEN A CLEARER VERSION OF
14 THIS THAT'S VERY CLEAR.

15 Q. BUT IN ANY EVENT, THE THERMAL CONDUCTIVITY
16 SPECIFICATIONS FOR THE PLATFORM FOR THIS MECHANICAL ISOLATION,
17 DO THEY DIFFER FROM THOSE BETWEEN RAYTHEON AND INDIGO?

18 A. YES, THEY DO.

19 Q. LET'S NEXT TURN TO NUMBER 9, THE USE OF A STIFFENING
20 ELEMENT TO CONTROL IMAGE PLANE MOTION. WHAT IS THE PROBLEM OR
21 ISSUE HERE?

22 A. WELL, THE PROBLEM WE'RE SEEKING TO SOLVE IS THAT IN
23 SOME OF THE APPLICATIONS, THERE IS A SIGNIFICANT AMOUNT OF
24 VIBRATION. AIRCRAFT ARE ONE EXAMPLE. YOU KNOW, VARIOUS --
25 VARIOUS VEHICLE APPLICATIONS WHERE YOU HAVE A LOT OF VIBRATION

1 CAUSED BY THE VEHICLE. AND THE COLD FINGER, WHICH IS VERY THIN
2 AND OFTEN SLENDER, HAS THE -- LIKE ANY CANTILEVERED, YOU KNOW,
3 POLE IS GOING TO SHAKE A LITTLE BIT, AND SO YOU WANT TO
4 MINIMIZE THAT SHAKING BY USING SOME METHOD OF STIFFENING OR
5 REINFORCEMENT.

6 Q. HAVE YOU PERSONALLY BEEN FAMILIAR WITH -- WITH STRUTS
7 OR -- OR MEANS OF ISOLATING OR CONTROLLING THIS VIBRATION?

8 A. YES.

9 Q. IN WHAT WAY? WHAT HAS BEEN YOUR PERSONAL EXPERIENCE?

10 A. WELL, MY PERSONAL EXPERIENCE IS THAT I HAVE
11 CONSIDERED THEIR USE ON A NUMBER OF OCCASIONS. I HAVE USED
12 METHODS OTHER THAN WHAT IS -- WHAT KIND OF IS THE PRACTICE OF
13 RAYTHEON OR INDIGO, BUT THERE ARE A NUMBER OF WAYS OF
14 ADDRESSING THIS PROBLEM. ONE IS BY SELECTING A CRYOCOOLER AND
15 SOME OTHER THINGS. BUT I ABSOLUTELY EVALUATED THIS ISSUE AND
16 CONSIDERED THE USE OF A STRUT, THE DESIGN OF A STRUT.

17 Q. WELL, TO YOUR POINT, LET ME CUT TO THE CHASE ON THAT.
18 WHAT -- DOES INDIGO USE STRUTS IN ALL OF ITS PRODUCTS, ALL OF
19 ITS COOLED PRODUCTS?

20 A. NO. THE -- THE GENERAL -- I LIKE TO USE THE TERM,
21 "STIFFENER," BUT THERE'S ONLY ONE PRODUCT, THE NWS PRODUCT THAT
22 USES THAT.

23 Q. THAT USES THE CONCEPT OF A STIFFENER?

24 A. THAT'S CORRECT.

25 Q. AND CAN YOU DESCRIBE FOR THE JURY THE DESIGN OF THE

1 STIFFENER THAT IS USED BY INDIGO?

2 A. YEAH. THE -- THE STIFFENER THAT'S USED BY INDIGO
3 IS -- RAYTHEON USES A STRUT, AND SO IN COMPARISON, RAYTHEON
4 USES A STRUT. A STRUT IS A COMPRESSIVE MEMBER. THAT'S WHAT
5 THE WORD MEANS. INDIGO'S DESIGN IS ACTUALLY A SPRING. SO IT'S
6 NOT A STRUT AT ALL. IT'S A SPRING THAT MINIMIZES -- IT
7 REINFORCES, BUT IT DOESN'T COMPLETELY RESTRICT THE MOTION.

8 Q. A SPRING LOOKING LIKE WHAT? IN OTHER WORDS, IF WE
9 LOOK DOWN INTO THE COLDFINGER AND THE COLDFINGER -- AND THE
10 CRYOGENIC TUBE IN WHICH THE COLDFINGER SITS, WHAT WOULD WE WILL
11 BE LOOKING AT IF WE WERE LOOKING AT RAYTHEON'S STRUT?

12 A. YEAH, WE WOULD LOOK AT -- AT LIKE A CROSS KIND OF
13 LIKE A CROSS HAIR, SO IT WOULD BE THESE RADIAL LINES. THERE'S
14 FOUR OF THEM AT 90-DEGREE ANGLES, AND THAT'S WHAT YOU WOULD SEE
15 WHEN YOU LOOKED AT RAYTHEON'S.

16 Q. AND IF WE WERE TO DO THE SAME THING WITH THIS INDIGO
17 DESIGN FOR THIS ONE PROJECT YOU'RE TALKING ABOUT, AND IF WE
18 WERE LOOKING DOWN AND YOU'VE GOT THE COLDFINGER SITTING IN THE
19 LARGER CRYOGENIC CYLINDER, WHAT WOULD WE BE LOOKING AT?

20 A. WELL, YOU'D BE LOOKING AT -- THERE WOULD BE FOUR
21 ELEMENTS, BUT THEY'RE -- THEY LOOK LIKE LITTLE S'S, AND THEY'RE
22 KIND OF IN A -- NOT IN A RADIAL FASHION, BUT ALMOST AN
23 ADDITIONAL, LIKE A -- THEY FORM PART OF A CIRCLE, AND THEN
24 THERE'S TWO LITTLE LEGS THAT ATTACH TO THE COLDFINGER ON THE
25 ONE SIDE AND THE DEWAR ON THE OTHER SIDE, SO IT'S -- IT'S KIND

1 OF AN "S" SHAPE.

2 Q. AND IS THAT WHAT YOU MEANT EARLIER BY A STRING?

3 A. YEAH, FUNCTIONALLY, IT'S A SPRING.

4 Q. SO, IF WE WERE LOOKING DOWN, WE WOULD SEE STRUT --

5 THESE STIFFENERS THAT ARE "S" SHAPED?

6 A. YEAH.

7 Q. AND -- AND HOW DO THOSE "S" SHAPE STIFFENERS ACT AS A
8 SPRING?

9 A. WELL, THE -- THERE'S A LITTLE BIT OF FREEDOM OF
10 MOVEMENT THERE, AND SO IF THERE'S VIBRATION, THEY'RE ALLOWED
11 TO -- TO FLEX JUST A LITTLE BIT, AND SO IT'S NOT A HARD -- IT'S
12 NOT A HARD CONNECTION. IT'S A -- IT'S A LITTLE BIT -- IT
13 PROVIDES SOME LEVEL OF DAMPENING.

14 Q. AND CONTRAST THAT WITH THE STRUT DESIGN, THE CROSS
15 HAIRS AS YOU DESCRIBED IT, DOES THE STRUT DESIGN ALLOW FOR ANY
16 MOVEMENT, OR DOES IT INHIBIT MOVEMENT?

17 A. IT INHIBITS MOVEMENT.

18 Q. DO YOU RECALL SEEING AN INDIGO DIAGRAM THAT -- WELL,
19 FIRST OF ALL, DO YOU RECALL SEEING THE INDIGO DIAGRAM THAT
20 COUNSEL FOR RAYTHEON PUT UP THAT SHOWED THE SPRINGS?

21 A. YES.

22 Q. DO YOU ALSO RECALL SEEING A DRAWING THAT LOOKED LIKE
23 A -- A CROSS HAIR STRUT?

24 A. YES.

25 Q. WHAT'D YOU UNDERSTAND ABOUT THAT STRUT INsofar AS

1 WHETHER OR NOT IT WAS EVER USED IN PRODUCTION?

2 A. I COULDN'T FIND ANY ACTUAL APPLICATIONS. IT WAS AN
3 ENGINEERING RELEASE, AND I COULDN'T SEE WHERE IT WAS ACTUALLY
4 USED IN ANY PRODUCT.

5 Q. DO YOU HAVE AN OPINION, SIR, BASED UPON WHAT WE
6 COVERED SO FAR AS TO WHETHER THE DESIGN OF INDIGO'S STIFFENER
7 DIFFERS IN INTENT AND FORM FROM THE DESIGN OF RAYTHEON'S STRUT?

8 A. YES, IT ABSOLUTELY DOES.

9 Q. BASED UPON YOUR ANALYSIS AND WORK IN THIS CASE, DO
10 YOU HAVE AN OPINION WHETHER OR NOT THE USE OF A STRUT OR
11 STIFFENER TO MINIMIZE OR ELIMINATE COLDFINGER VIBRATION IS AN
12 OBVIOUS SOLUTION?

13 A. YES, IT IS AN OBVIOUS SOLUTION.

14 Q. DO YOU RECALL HOW MR. HOLCOMBE CHARACTERIZED THIS
15 ALLEGED TRADE SECRET IN HIS DEPOSITION?

16 A. YEAH, HE -- YES, I DO.

17 Q. AND -- AND HOW DID HE DESCRIBE IT? WELL, BETTER PUT,
18 WHAT DID HE NARROW THE ALLEGED TRADE SECRET DOWN TO?

19 A. THE USE OF A GAP AND EPOXY, AIR GAP AND EPOXY.

20 Q. AND -- AND AN AIR GAP. WE'RE TALKING, AGAIN, ABOUT
21 THIS -- THE COLDFINGER AND THE, FOR LACK OF A BETTER WORD, THE
22 DEWAR TUBE IN WHICH THE COLDFINGER IS PLACED?

23 A. YES.

24 Q. WHAT -- WHAT AIR GAP -- AND BY THE WAY, WE'RE TALKING
25 ABOUT SOMETHING COMPLETELY DIFFERENT THAN THE MECHANICAL GAP OR

1 ISOLATION BETWEEN THE TOP OF THE COLD FINGER AND THE
2 MOTHERBOARD, RIGHT? WE'RE TALKING ABOUT THIS FASTENER OR
3 STRUT?

4 A. YES.

5 Q. OKAY. SO, WHAT -- WHAT GAP DO YOU UNDERSTAND
6 MR. HOLCOMBE TO HAVE BEEN REFERRING TO?

7 A. WELL, THE GAP BETWEEN THE INSIDE RING OF THE
8 STIFFENING ELEMENT AND THE -- AND THE COLD FINGER, POSSIBLY ALSO
9 THE -- THE SAME GAP ON THE OUTSIDE WHERE IT CONNECTS TO THE
10 DEWAR -- I WAS UNCLEAR ON WHETHER I AGREE WITH THAT.

11 Q. LET ME ASK YOU, DOES RAYTHEON EVEN HAVE A GAP?

12 A. NO, THEY COMPLETELY FILLED IT WITH EPOXY. IT CALLS
13 FOR A CONTINUOUS FILL, SO THERE'S NO AIR GAP LEFT.

14 Q. AND THE EPOXY CONNECTS THE STRUT OR FASTENER,
15 CONNECTS IT BETWEEN THE COLD FINGER TUBE AND THE DEWAR
16 CYLINDRICAL DEWAR HOUSING, CORRECT?

17 A. YES.

18 Q. THE ALTERNATIVE TO ADHESIVE WOULD BE WHAT?

19 A. WELL, THERE'S NO GOOD ALTERNATIVE IN MY MIND. THE
20 ALTERNATIVE OF BRAZING HAS BEEN SUGGESTED, BUT THAT SEEMS LIKE
21 A -- NOT A VERY GOOD SOLUTION.

22 Q. REMIND US WHAT BRAZING IS.

23 A. BRAZING IS ESSENTIALLY LIKE A HIGH TEMPERATURE
24 SOLDER. IT CAN KIND OF BE THOUGHT OF AS A -- AS A WELD ALMOST,
25 BUT IT'S A HIGH TEMPERATURE PROCESS USING FILLER PRODUCTS.

1 Q. AND DO YOU RECALL MY DISCUSSION WITH MR. HOLCOMBE
2 ABOUT BRAZING?

3 A. YES.

4 Q. AND -- AND FROM A MECHANICAL ENGINEERING STANDPOINT,
5 IN TALKING ABOUT A -- A VACUUM TUBE, ARE THERE ANY PROBLEMS
6 WITH BRAZING MATERIALS TO THE INSIDE OF THAT HOUSING OR TO THE
7 OUTSIDE OF THE COLD FINGER?

8 A. YEAH, WELL, THE COLD FINGER IS EXTREMELY THIN. IT'S
9 ABOUT 5 THOUSANDTHS OF AN INCH THICK, AND IT REALLY IS AN
10 AMAZING FEAT OF MACHINING THAT YOU CAN MAKE SOMETHING LIKE
11 THIS. BUT THE CLEARANCES ON THE INSIDE OF THAT, THE
12 PERFORMANCE OF THE CRYO COOLER AND ITS EFFICIENCY ARE DIRECTLY
13 RELATED TO THOSE CLEARANCES. AND IF YOU WERE GOING TO -- TO
14 WELD OR TO BRAZE, THERE'S GOING TO BE A SHRINKAGE IN THAT JOINT
15 BECAUSE IT'S A HIGH-TEMPERATURE JOINT, IT COOLS, AND IT'S GOING
16 TO PULL AWAY, AND IT WOULD DEFORM THAT EXTREMELY THIN WALL OF
17 THAT COLD FINGER.

18 Q. BASED UPON WHAT YOU SAID, IS -- WAS BRAZING EVEN A
19 PRACTICAL ALTERNATIVE?

20 A. I -- I DON'T THINK SO. I KNOW RAYTHEON TRIED IT, BUT
21 IT DIDN'T SEEM TO ME TO BE -- I NEVER WOULD HAVE TRIED IT.

22 Q. SO, BASED UPON YOUR ENGINEERING BACKGROUND AND YOUR
23 STUDY IN THIS CASE, DOES THE USE OF AN ADHESIVE IN ORDER TO
24 JOIN THE -- THE STRUT OR THE STIFFENER BETWEEN THE HOUSING OF
25 THE DEWAR ASSEMBLY AND THE COLD FINGER AN OBVIOUS SOLUTION? DO

1 YOU HAVE AN OPINION ONE WAY OR THE OTHER?

2 A. YEAH, I THINK IT ABSOLUTELY IS AN OBVIOUS SOLUTION.

3 Q. LET'S THEN MOVE, SIR, TO TOPIC NUMBER 11, THE USE OF
4 A RECESSED OUTER HOUSING WINDOW. DURING THE PERIOD 1996
5 THROUGH 2000 -- WELL, LET'S BACK UP FOR A MINUTE.

6 WHAT DO YOU UNDERSTAND THE ISSUE OR PROBLEM TO
7 BE HERE LEADING TO THE -- A RECESSED WINDOW?

8 A. WELL, THE -- YOU HAVE TO CERTAINLY MAKE A HERMETIC
9 JOINT BETWEEN THE WINDOW AND THE HOUSING, AND IT SEEMS LIKE THE
10 ISSUE HERE IS JUST RECESSING THAT WINDOW, AND I'M -- AGAIN,
11 IT'S ALL OF THE DIFFERENT THINGS ASSOCIATED WITH THAT, THE
12 SOLDERING PROCESSES AND SO FORTH.

13 Q. IN THE LATE '90'S, EARLY 2000'S, DID YOU YOURSELF
14 DESIGN A RECESSED WINDOW EDGE METALLIZED APPARATUS FOR USE IN
15 AN INFRARED DETECTOR?

16 A. IT WAS A -- I DID THAT DESIGN. IT WASN'T
17 SPECIFICALLY FOR INFRARED DETECTOR. IT WAS A RELATED PIECE OF
18 HARDWARE.

19 Q. AND THAT WAS FOR WHOM?

20 A. THAT WAS FOR LOCKHEED MARTIN.

21 Q. AND WHEN WE TALK --

22 A. IT WAS A VACUUM VESSEL, I SHOULD SAY. IT WAS VERY
23 MUCH THE SAME THERE; JUST DIDN'T HAPPEN TO BE A DETECTOR INSIDE
24 IS ALL.

25 Q. IT WAS A VACUUM VESSEL?

1 A. YES.

2 Q. WAS IT OPTICAL?

3 A. YES.

4 Q. AND THAT DESIGN THAT YOU DID, DO YOU RECALL WHEN THAT
5 WAS APPROXIMATELY?

6 A. APPROXIMATELY 1999.

7 Q. OKAY. EDGE METALLIZED, THAT WAS PART OF YOUR DESIGN?

8 A. YES.

9 Q. WHAT DOES THAT MEAN?

10 A. WELL, THE -- PRIOR TO SOLDERING, WE KNOW MATERIALS
11 DON'T LIKE TO BE SOLDERED TO, SO YOU NEED TO PROVIDE OTHER
12 METALS THAT DO LIKE TO BE SOLDERED TO. SO THE -- METALLIZING
13 THE EDGE OF THE WINDOW IS A NECESSARY STEP IF YOU WANT TO MAKE
14 A SOLDER SEAL.

15 Q. AND -- AND WE TALK ABOUT THE WINDOW, AND A LOT OF US
16 THINK IN TERMS -- THERE'S A REGULAR GLASS. WHAT IS THE WINDOW
17 TYPICALLY MADE OF IN AN INFRARED CAMERA?

18 A. OH, COMMON MATERIALS ARE SAPPHIRE IS USED.
19 GERMANIUM, SILICON, ZINC SELENIDE. THOSE ARE THE MOST COMMON.

20 Q. AND WHY DO THEY NEED TO BE METALLIZED BEFORE THEY ARE
21 JOINED TO THE WINDOW HOUSING?

22 A. NONE OF THOSE MATERIALS WILL EASILY ACCEPT SOLDER.

23 Q. SO, IF YOU WERE TO PUT DOWN SAPPHIRE, ALUMINUM OXIDE,
24 A WINDOW DISK, IF YOU WILL, INTO THAT HOUSING AND ATTEMPT TO
25 WELD IT, WOULD THE WELD TAKE?

1 A. NO.

2 Q. SO YOU HAD EXPERIENCE -- OR DID YOU HAVE EXPERIENCE
3 IN -- IN METALLIZING WINDOWS FOR RECESSED HOUSING UNITS?

4 A. YEAH, FOR SPECIFYING THAT.

5 Q. AND THEREAFTER, DID YOU -- WERE YOU INVOLVED IN THE
6 DESIGN OF RECESSED HOUSING?

7 A. RECESSED HOUSING, I'M SORRY?

8 Q. RECESSED WINDOW HOUSING FOR INFRARED APPLICATIONS.

9 A. YES.

10 Q. YOU'VE HEARD THE TESTIMONY IN THIS CASE, HAVE YOU
11 NOT, SIR, ABOUT THE SO-CALLED EDGE SEALING AND -- AND FACE
12 SEALING, CORRECT?

13 A. YES.

14 Q. DO YOU REMEMBER MY -- USING MY FINGERS AND -- AND --
15 SHOWING IT THIS WAY AND SHOWING HOW A WINDOW MIGHT GO INTO
16 THOSE BRACKETS?

17 A. YES.

18 Q. WHAT IS FACE SOLDERING AND WHAT IS EDGE SOLDERING?

19 A. WELL, FACE SOLDER, YOU HAVE THE FLAT PART OF THE
20 WINDOW, AND IF THE -- IF YOU WANT TO -- ONE METHOD OF DOING IT
21 IS TO PROVIDE A KIND OF AN ANULAR OR DONUT-SHAPED METALLIZATION
22 ON THE OUTSIDE EDGE OF THE WINDOW, AND THEN YOU CAN SOLDER, YOU
23 KNOW, FLAT DOWN TO A -- TO THE WINDOW HOUSING. YOU COULD DO IT
24 THAT WAY, OR YOU COULD DO IT ON THE EDGE.

25 Q. MAYBE MY ANALOGY WASN'T PERFECT. WHEN I HELD UP MY

1 FINGERS LIKE THIS, WHAT YOU REALLY HAVE IS A RING, DON'T YOU,
2 THAT -- THAT GOES IN THAT SHAPE?

3 A. THAT'S CORRECT, YEAH.

4 Q. AND WITH WHAT I'M SHOWING HERE, WHAT IS THE EDGE AND
5 WHAT IS THE FACE?

6 A. WELL, YOUR FINGERS WOULD BE THE EDGE, AND YOUR THUMBS
7 IT WOULD BE THE FACE.

8 Q. SO, THE VERTICAL EDGE THAT BOUNDS THE WINDOW HOUSING,
9 THAT IS THE -- THE EDGE, AND MY THUMBS, WHICH ARE THE
10 HORIZONTAL PARTS OF THIS CIRCULAR HOUSING IS THE FACE?

11 A. THAT'S CORRECT.

12 Q. WHAT DO YOU UNDERSTAND TO BE INCORPORATED INTO THIS
13 ALLEGED TRADE SECRET INSOFAR AS IT CONCERNS FACE VERSUS EDGE
14 SOLDERING?

15 A. IT -- TRUTHFULLY, IT'S -- IT'S DIFFICULT TO FULLY
16 UNDERSTAND BECAUSE IT SEEMS TO -- THERE SEEMS TO BE A LOT OF --
17 A LOT OF THINGS THROWN IN THERE THAT TO ME ARE VERY COMMON AND
18 OBVIOUS, BUT THE -- THE METALLIZATION SCHEME CERTAINLY, THE GAP
19 THAT IS IN THERE, THE METAL SELECTED, THE SOLDER SELECTED, THE
20 FACT OF THE RECESS.

21 Q. AND BETWEEN EDGE AND FACE, HOW DOES RAYTHEON SOLDER?

22 A. RAYTHEON SOLDERS TO THE EDGE.

23 Q. AND INDIGO'S SOLDERING SYSTEM IS WHAT?

24 A. IT'S A -- IT'S A COMBINATION FACE-EDGE SOLDER. THE
25 FUNCTIONAL PART IS THE FACE. THERE'S A LARGE FACE AREA THAT IS

1 SOLDERED TO. THAT'S WHAT FORMS THE JOINT. THAT'S WHAT FORMS
2 THE HERMETIC SEAL. THE LITTLE BIT THAT GOES UP THE EDGE AS
3 WELL.

4 Q. NOW, THE WINDOW METALLIZATION, AND THAT IS THE
5 PUTTING SOME SORT OF METAL LAYER ON THIS WINDOW MATERIAL TO
6 ALLOW IT TO SOLDER; IS THAT THE PURPOSE?

7 A. YES.

8 Q. ARE THERE DIFFERENCES BETWEEN THE RECIPES, IF YOU
9 WILL, BETWEEN RAYTHEON'S EDGE METALLIZATION AND INDIGO'S
10 PRIMARILY FACE METALLIZATION?

11 A. YES, THERE DEFINITELY ARE.

12 Q. IN TERMS OF THE METALLIZATION ITSELF?

13 A. THAT'S CORRECT.

14 Q. TELL US WHAT THE DIFFERENCES ARE STARTING WITH
15 WHATEVER COMPANY YOU WANT TO START WITH.

16 A. UNFORTUNATELY, I'M NOT THINKING OF IT OFF THE TOP OF
17 MY HEAD EXACTLY WHAT THE METALS ARE. THERE IS A -- I BELIEVE
18 THAT --

19 Q. WELL, IF I -- AND SIR, IF I COULD JUST MENTION WHAT
20 YOU STATED IN YOUR REPORT JUST TO BRING US AROUND, WAS THERE A
21 REFERENCE TO TITANIUM NICKEL GOLD?

22 MR. CUNNINGHAM: OBJECTION, YOUR HONOR, LEADING.

23 MR. RENARD: YOUR HONOR, WE HAVE SOME
24 COMPREHENSIVE TESTIMONY HERE. I'M JUST TRYING TO BRING -- AND
25 I'LL BE GLAD TO SHOW --

1 THE COURT: YOU'RE TRYING TO FOCUS HIS ATTENTION
2 ON SOMETHING?

3 MR. RENARD: YES, YOUR HONOR.

4 THE COURT: I'LL OVERRULE THE OBJECTION. LET'S
5 SEE.

6 MR. RENARD: I'LL JUST RESTATE IT, YOUR HONOR.

7 Q. (BY MR. RENARD) IN FACT -- WELL, MR. KNAUTH, DO YOU
8 RECALL A REFERENCE WITH RESPECT TO INDIGO TO A LAYER OF
9 TITANIUM FOLLOWED BY NICKEL, GOLD, RAYTHEON'S USING CHROME,
10 NICKEL, TIN --

11 A. YES, YES.

12 Q. OKAY.

13 A. YES.

14 Q. THAT'S BY WAY OF ORIENTING US.

15 A. YES.

16 Q. NOW, WITH THAT REMINDER, CAN YOU TELL US THE
17 DIFFERENCE BETWEEN THE METALLIZATION RECIPES BETWEEN RAYTHEON
18 AND INDIGO?

19 A. WELL, THE FUNDAMENTAL DIFFERENCE IS THE USE OF TIN.
20 THAT REALLY IS THE FUNDAMENTAL DIFFERENCE THERE. RAYTHEON --
21 AND RAYTHEON DID A FAIR AMOUNT OF WORK ON MAKING THE TIN SYSTEM
22 WORK. INDIGO DOESN'T USE IT AT ALL.

23 Q. AND IS THE METALLIZATION -- WE TALKED ABOUT
24 METALLIZING THE WINDOW. IS THERE ANY METALLIZATION THAT GOES
25 ON ON THIS FRAME THAT WE'VE TALKED ABOUT IN THE HOUSING?

1 A. YES, THERE IS.

2 Q. DO THOSE DIFFER AS BETWEEN RAYTHEON AND INDIGO?

3 A. THEY DO DIFFER.

4 Q. IN WHAT WAY?

5 A. AND I APOLOGIZE, I JUST CAN'T THINK OFF THE TOP OF MY
6 HEAD EXACTLY WHAT THE METALS ARE AND THE THICKNESSES. THEY'RE
7 ABSOLUTELY DIFFERENT, AND AGAIN, IT'S A -- IT'S THE TIN
8 METALLIZATION.

9 Q. OKAY. NOW, LET'S TALK ABOUT THE SOLDER THAT IS USED
10 IN THESE TWO DIFFERENT SYSTEMS. DO THEY DIFFER?

11 A. YES, THEY DO.

12 Q. HOW SO?

13 A. WELL, AGAIN, IT'S THE USE OF TIN AND NOT THE USE OF
14 TIN. RAYTHEON USES A TIN-BASED SOLDER, AND THAT'S IMPORTANT
15 BECAUSE THAT'S PART OF THEIR DEVELOPMENT HISTORY, AND THEIR --
16 THEIR -- THEIR SUPPORT FOR THEIR CLAIMING OF A TRADE SECRET IS
17 MINIMIZING, FOR EXAMPLE, TIN WHISKERING. AND INDIGO DOESN'T
18 USE TIN AT ALL, SO IT REALLY IS A FUNDAMENTAL DIFFERENCE IN THE
19 METAL SYSTEMS.

20 Q. LET ME ASK YOU, SIR, BASED UPON THAT ANALYSIS AND THE
21 OTHER WORK THAT YOU'VE DONE, DO YOU HAVE AN OPINION WHETHER OR
22 NOT THE OUTER HOUSING WINDOW ASSEMBLY PROCESSES CLAIMED BY
23 RAYTHEON IN NUMBER 11 ARE THE SAME AS THOSE USED BY INDIGO?

24 A. NO, THEY'RE NOT.

25 Q. LET ME ASK YOU A BROADER QUESTION. DO YOU HAVE AN

1 OPINION WHETHER OR NOT THE USE OF A RECESSED OUTER HOUSING
2 WINDOW METALLIZED IS GENERALLY KNOWN IN THE INFRARED INDUSTRY?

3 A. YES, IT'S ABSOLUTELY GENERALLY KNOWN.

4 Q. AND WHY DO YOU SAY THAT?

5 A. IT -- I'VE DONE IT, FOR ONE THING. IT'S WIDELY ON
6 DISPLAY. CUSTOMERS HAVE SPECIFIED IT TO ME. I'VE SEEN IT
7 MANY, MANY TIMES.

8 Q. WHEN YOU SAY IT'S WIDELY ON DISPLAY, WE HAVEN'T
9 TALKED ABOUT THAT YET, BUT HOW IS IT THAT COMPETITORS' PARTS
10 SUCH AS WINDOW HOUSINGS ARE ON DISPLAY?

11 A. WELL, I'VE ATTENDED MANY TRADE SHOWS, AND THE VENDORS
12 OF THESE DIFFERENT CAMERAS AND DEWAR SYSTEMS PUT THEIR DEWARS
13 OUT ON DISPLAY, THEY PUT THEIR CAMERAS ON DISPLAY, AND YOU CAN
14 PLAINLY SEE WHETHER SOMEONE HAS A RECESSED WINDOW OR NOT. IT'S
15 JUST -- IT'S IMMEDIATELY PERCEIVABLE.

16 Q. AND -- AND DOES THAT APPLY -- LET'S JUST SPEAK REAL
17 BROADLY HERE. DOES THAT APPLY NOT ONLY TO WINDOWS BUT TO OTHER
18 ASPECTS OF DEWAR ASSEMBLIES?

19 A. SURE.

20 Q. WHAT -- WHAT OTHER KINDS OF COMPONENT PARTS WITHIN A
21 DEWAR HAVE YOU SEEN COMPETING INFRARED COMPANIES PUBLICLY
22 DISPLAY AT THOSE SHOWS?

23 A. OH, THE USE OF PINS VERSUS THE USE OF MULTILAYER
24 CERAMIC FEEDTHROUGHS, A CYLINDRICAL HOUSING VERSUS SOMETHING
25 THAT'S A LITTLE BIT DIFFERENT. YOU KNOW, THE SIZE THE PINCHOFF

1 TUBE, WHAT KIND OF -- YOU KNOW, IS IT AN RF GETTER, IS IT NOT.
2 THERE ARE ALL SORTS OF THINGS YOU CAN SEE JUST BY LOOKING AT
3 IT. YOU DON'T HAVE TO DIG INTO IT, YOU DON'T HAVE TO CUT IT
4 APART; YOU CAN JUST SEE IT.

5 Q. SOMETHING YOU JUST MENTIONED THAT'S A GOOD TRANSITION
6 HERE, LET'S GO TO NUMBER 12, MULTILAYER CERAMIC ELECTRICAL
7 FEEDTHROUGH. YOU STATED THAT YOU'VE SEEN MULTILAYER CERAMIC
8 FEEDTHROUGHS AT THESE SHOWS?

9 A. YES.

10 Q. FROM DIFFERENT INFRARED COMPANIES?

11 A. YEAH, DIFFERENT INFRARED COMPANIES AND DIFFERENT
12 VENDORS.

13 Q. BASED UPON YOUR WORK, DO YOU HAVE AN OPINION OF
14 WHETHER OR NOT THE USE OF A MULTILAYER CO-FIRED CERAMIC
15 ELECTRICAL FEEDTHROUGH IS GENERALLY KNOWN IN THE INFRARED
16 BUSINESS?

17 A. IT ABSOLUTELY IS GENERALLY KNOWN.

18 Q. GIVEN YOUR EXPERIENCE, TO WHAT EXTENT, IF ANY, ARE
19 VENDORS INVOLVED IN THE SELECTION OF THE CERAMIC FEEDTHROUGHS?

20 A. THE VENDORS WANT YOU TO BUY PRODUCTS, AND THEY WILL
21 HELP YOU BECOME SUCCESSFUL. THEY ARE THE EXPERTS AT MAKING
22 THESE CERAMIC FEEDTHROUGHS AND INTEGRATING THEM WITH YOUR DEWAR
23 FROM A PERSPECTIVE OF MAKING THE SEALS WORK, SELECTING
24 MATERIALS, AND SO FORTH. THEY WILL GUIDE YOU THROUGH THAT
25 PROCESS.

1 Q. ARE THERE THIRD-PARTY SUPPLIERS OF THESE CERAMIC
2 FEEDTHROUGHS?

3 A. YES.

4 Q. CAN YOU JUST MENTION SOME OF THE NAMES THAT YOU'RE
5 AWARE OF?

6 A. SURE. GENERAL CERAMICS IS ONE I'M VERY FAMILIAR
7 WITH. THERE'S PACIFIC COAST TECHNOLOGIES. I THINK THERE'S
8 SEVERAL. THERE'S A NUMBER OF VENDORS.

9 Q. IN DEALING WITH THESE VENDORS -- AND HAVE YOU DEALT
10 WITH VENDORS FOR THESE PURPOSES?

11 A. YES.

12 Q. NOW, IN DEALING WITH THESE VENDORS, WHAT DESIGN
13 PARAMETERS OR WHAT ARE THE INPUTS THAT YOU HAVE TO GIVE AS THE
14 DESIGNER OR MANUFACTURER TO ONE OF THESE SUPPLIERS OF CERAMIC
15 FEEDTHROUGHS?

16 A. OH, BASICALLY, YOU JUST HAVE TO TELL THEM HOW MANY --
17 IT'S AS SIMPLE AS TELLING THEM HOW MANY INTERCONNECTIONS YOU
18 WANT, WHAT THE RESISTANCE OF THE ELECTRICAL TRACES IS, MAYBE
19 OTHER ELECTRICAL PARAMETERS LIKE CAPACITANCE, YOU KNOW, THOSE
20 SORTS OF THINGS, AND THEN HAVE THEM SUGGEST SOMETHING TO YOU.

21 Q. IS -- IS THE REST UP TO THE VENDOR?

22 A. IT PRETTY WELL IS.

23 Q. SIR, I NEXT WANT TO TURN TO NUMBER 14, METHOD AND USE
24 OF SEQUENTIAL VACUUM BAKE. WHAT IS YOUR UNDERSTANDING OF WHAT
25 IS BEING CLAIMED HERE?

1 A. WELL, IT'S A USE OF A SERIES OF BAKES, A -- A
2 PIECE-PART VACUUM BAKE AND THEN SOME SORT OF A SUBASSEMBLY BAKE
3 AND THEN A FINAL BAKE.

4 Q. IN YOUR EXPERIENCE AT INFRARED COMPONENT COMPANY --
5 BY THE WAY, WHERE WAS THAT BASED?

6 A. UTICA, NEW YORK.

7 Q. ONE COMPANY THAT WASN'T IN SANTA BARBARA?

8 A. THAT'S RIGHT. LOT COLDER THERE.

9 Q. DURING THAT PERIOD -- LET'S TALK ABOUT THE PERIOD
10 1996 THROUGH 2000. DID YOU HAVE ANY EXPERIENCE WITH A
11 SEQUENTIAL VACUUM BAKE?

12 A. YES, ABSOLUTELY.

13 Q. AND WHAT WAS THAT?

14 A. WELL, WE DID IT ALL THE TIME. WE -- WE HAD
15 PIECE-PART OVENS, WE HAD OVENS THAT WERE USED FOR ASSEMBLY --
16 SUBASSEMBLY BAKING, AND THEN THE FINAL BAKING WAS DONE ON THE
17 VACUUM SYSTEM WHILE YOU'RE ACTIVELY PUMPING ON THE DEWAR.

18 Q. WAS THAT PROCESS IN PLACE WHEN YOU STARTED AT ICC?

19 A. YES, IT WAS.

20 Q. AND YOU STARTED WHEN?

21 A. 1996.

22 Q. AND TELL US WHAT THE PURPOSE OF SEQUENTIAL VACUUM
23 BAKING IS, AT LEAST AS YOU DESCRIBE IT, PIECE PART,
24 SUBASSEMBLY, FINAL?

25 A. YEAH, THE -- AND I ACTUALLY GOT THIS WRONG IN --

1 INITIALLY BECAUSE IT DIDN'T -- BECAUSE THE MIDDLE BAKE SEEMED
2 TO ME TO BE A DISTINCTION WITHOUT A DIFFERENCE WITH RESPECT TO
3 THE PIECE-PART BAKE. SO YOU HAVE A PIECE PART THAT YOU BAKE AT
4 THE HIGHEST TEMPERATURE IT CAN WITHSTAND, YOU ADD EPOXY OR
5 SOMETHING LIKE THIS TO JOIN IT TOGETHER TO SOMETHING ELSE,
6 WHICH HAS ALSO BEEN BAKED, AND THEN YOU BAKE THAT. BUT IN THIS
7 CASE, THE EPOXY HAS NEVER BEEN BAKED BEFORE, SO FOR IT, IT'S
8 THIS PIECE-PART BAKE. AND THEN ONCE THE FINAL ASSEMBLY IS
9 DONE, YOU BAKE IT AS A TOTAL ASSEMBLY AND -- AND A FINAL BAKE.

10 SO, YOU KNOW, IT'S -- PIECE-PART BAKING AND
11 FINAL BAKING, I THINK, IS WELL KNOWN. THE INTERMEDIATE STUFF
12 IS JUST PIECE-PART BAKING OF THE PART THAT'S NEVER BEEN BAKED
13 BEFORE. SO TO ME, IT'S A DISTINCTION WITHOUT A DIFFERENCE.

14 Q. AND APART FROM YOUR PERSONAL EXPERIENCE, ARE YOU
15 FAMILIAR WITH THE JOHN LANGAN PAPER IN 1976 THAT WE'VE SHOWN
16 THE JURY SEVERAL TIMES?

17 A. ABSOLUTELY.

18 Q. AND CAN YOU TELL US WHETHER OR NOT THAT DISCLOSES A
19 PIECE-PART AND FINAL BAKING PROCESS?

20 A. YES, IT DOES.

21 Q. AND -- AND WHAT IS THE PURPOSE OF BAKING? THESE --
22 AS YOU SAY, THE ORIGINAL PIECES, WHEN YOU PUT THEM TOGETHER,
23 THE ASSEMBLIES, AND THEN WHEN YOU PUT IT ALL TOGETHER, THE
24 FINAL BAKE, WHY DO YOU DO IT?

25 A. WELL, YOU DO IT BECAUSE YOU WANT TO -- EVERYTHING

1 OUTGASES, AND YOU WANT TO GET AS MUCH OF THAT OUTGASSING DONE
2 WITH BEFORE YOU EVER SEAL THE DEWAR BECAUSE IT WILL CONTINUE TO
3 OUTGAS, AND IT WILL EVENTUALLY FOUL THE DEWAR. THE PRESSURE
4 WILL BE TOO HIGH, AND YOU'RE GOING TO END UP -- IT WILL FAIL.
5 SO YOU WANT TO -- YOU WANT TO ACCELERATE THAT AS MUCH AS YOU
6 CAN TO GET AS MUCH OF THAT -- THOSE GASES OUT OF THE METALS,
7 OUT OF THE ADHESIVES, OUT OF THE PAINTS, WHATEVER YOU HAVE, AS
8 EARLY IN THE PROCESS AS YOU CAN GET IT, AS MUCH AS YOU CAN GET
9 IT. THE WAY TO DO THAT IS WITH A HIGH TEMPERATURE VACUUM BAKE.

10 Q. NOW, PART OF VACUUM BAKING IS DETERMINING, VERY
11 SIMPLISTICALLY, WHAT RECIPE TO BAKE THE PARTS AT, RIGHT?

12 A. YES.

13 Q. DOES THAT INCLUDE -- WELL, WHAT DOES THAT INCLUDE?

14 A. THAT WOULD INCLUDE TEMPERATURE YOU'RE GOING TO BAKE
15 AT, THE TIME THAT YOU'RE GOING TO BAKE IT, AND IT WOULD ALSO
16 INCLUDE THE PRESSURE THAT YOU BAKE IT AT.

17 Q. WHY IS PRESSURE A -- A PARAMETER THERE?

18 A. WELL, WITH ALL OF THESE THINGS, EVERYTHING HAS A
19 PARTIAL PRESSURE. YOU SUM ALL THOSE THINGS UP, AND THAT KIND
20 OF TURNS INTO THE -- INTO THE PRESSURE INSIDE THE -- THE
21 DEVICE. THE -- IF YOU INCREASE -- IF YOU HAVE A GREATER
22 VACUUM, THEN YOU ARE GOING TO -- THEN SOME OF THOSE MOLECULES
23 THAT HAVE LOW -- HAVE LOWER PARTIAL PRESSURES ARE GOING TO BE
24 RELEASED FROM THE SURFACE. IF YOU INCREASE THE PRESSURE OF THE
25 VACUUM BAKE, THEN THEY'LL STAY IN THE SURFACE. THEY WON'T

1 LEAVE. SO, PRESSURE IS ABSOLUTELY AN IMPORTANT PARAMETER IN
2 THE -- IN THE PIECE-PART OR SUBASSEMBLY OR FINAL ASSEMBLY BAKE.

3 Q. SO, ALL -- SO ALL OTHER THINGS BEING EQUAL, MEANING
4 TEMPERATURE AND TIME, THE LOWER THE PRESSURE, THE BETTER?

5 A. THE LOWER THE PRESSURE, THE BETTER.

6 Q. OKAY. NOW, HAVE YOU LOOKED AT THE RECIPES, IF YOU
7 WILL, USED BY INDIGO FOR ITS VACUUM BAKING AND THE RECIPES USED
8 BY RAYTHEON?

9 A. YES, I HAVE.

10 Q. HOW DID THEY COMPARE?

11 A. WELL, THE -- THE INDIGO ONE IS FAR MORE SPECIFIC. IT
12 HAS ELEVEN METHODS, AND THE RAYTHEON ONE HAS FOUR METHODS -- OR
13 THEY USE A DIFFERENT WORD TYPE OR SOMETHING. BUT THERE ARE
14 FOUR DIFFERENT -- FOUR ON RAYTHEON'S SIDE AND 11 ON THE INDIGO
15 SIDE. THEY VARY IN TEMPERATURE, THEY VARY IN TIME, AND MOST
16 SIGNIFICANTLY, THEY VARY IN PRESSURE. INDIGO'S IS ALWAYS A
17 HIGHER PRESSURE THAN IS RAYTHEON BY AN ORDER OF MAGNITUDES THAT
18 IS TEN TIMES HIGHER PRESSURE THAN IS THE VACUUM BAKE
19 TEMPERATURE OF RAYTHEON.

20 Q. DO YOU RECALL ME SHOWING MR. HOLCOMBE RAYTHEON
21 DOCUMENTS -- A DOCUMENT AND INDIGO DOCUMENT AND THEN SHOWING
22 THE COMPARISON OF THE TWO AND WHAT YOU JUST DESCRIBED?

23 A. YES.

24 Q. AND IS THAT WHAT YOU'RE TALKING ABOUT?

25 A. YES, I AM.

1 Q. SIR, BASED UPON YOUR ANALYSIS AND YOUR PERSONAL
2 EXPERIENCE WITH SEQUENTIAL VACUUM BAKING AT ICC, DO YOU HAVE AN
3 OPINION AS TO WHETHER OR NOT SEQUENTIAL VACUUM BAKING IS
4 OBVIOUS FOR OUTGASSING PURPOSES?

5 A. YES, I BELIEVE IT'S OBVIOUS.

6 Q. AND DO YOU HAVE AN OPINION ON WHETHER OR NOT
7 SEQUENTIAL VACUUM BAKING IS COMMONLY KNOWN AND USED WITHIN THE
8 INFRARED INDUSTRY?

9 A. YES, I BELIEVE IT IS.

10 Q. LET'S TURN TO NUMBER 8, THE USE OF UV/OZONE ASH
11 CLEANING FOR WIREBONDING. DO YOU HAVE ANY EXPERIENCE WITH
12 THIS?

13 A. YES.

14 Q. AND WHAT IS THAT?

15 A. WELL, WE -- WE DO THIS THROUGH VENDORS. WE DON'T
16 HAVE A UV OZONE ASHING VENDOR, BUT WE HAVE USED IT IN
17 PARTICULAR IN UNCOOLED PARTS, THE PACKAGING OF UNCOOLED
18 COMPONENTS FOR WIREBONDING.

19 Q. HAVE YOU RELIED IN THE PAST UPON ANY TEXTBOOKS OR
20 TREATISES WITH RESPECT TO WIREBONDING?

21 A. YES, I HAVE.

22 Q. WHAT IS THAT?

23 A. THE TEXTBOOK?

24 Q. YES, SIR.

25 A. I THINK THE NAME IS -- IT'S HANDLYN OR HERMAN. I'VE

1 HAD IT IN MY LIBRARY FOR PROBABLY 10 YEARS.

2 Q. AND DOES THAT MAKE REFERENCE TO UV OZONE ASHING FOR
3 WIREBONDING PURPOSES?

4 A. YES, IT DOES.

5 MR. RENARD: CAN WE PULL UP EXHIBIT -- SORRY,
6 DEFENDANTS' 598.

7 Q. IS THIS THE BOOK THAT YOU'RE REFERRING TO?

8 A. YEAH, HARMAN. YEP. GEORGE --

9 Q. AND IS THIS SOMETHING THAT YOU'VE PERSONALLY USED IN
10 YOUR WORK?

11 A. YES.

12 Q. AND YOU RELIED UPON IT?

13 A. YES, I HAVE.

14 Q. AND DO YOU KNOW WHETHER OR NOT THIS IS A RECOGNIZED
15 AUTHORITY FOR PURPOSES OF WIREBONDING AND MICROELECTRONICS?

16 A. YEAH, I DON'T KNOW HOW TO GET BETTER THAN THE
17 NATIONAL INSTITUTE OF STANDARDS.

18 MR. RENARD: IF WE COULD GO TO THE SECOND PAGE,
19 I'M NOT SURE WHERE THE DATE IS ON THIS. NEXT PAGE, PAGE 3, IF
20 YOU COULD JUST BLOW THAT UP.

21 Q. DOES THIS APPEAR TO BE A 1989 EDITION?

22 A. YES.

23 Q. AND YOU HAVE POINTED OUT FOR US, HAVE YOU NOT, PLACES
24 IN THIS TREATISE THAT TALK ABOUT UV OZONE ASHING?

25 A. YES.

1 MR. RENARD: IF WE COULD GO TO PAGE 10 AND JUST
2 BLOW UP THIS SECTION OF DEFENDANTS' 598.

3 Q. NOW, IT STATES IN THIS SECTION 4.1.2, BOTH PLASMA AND
4 UV OZONE CLEANING METHODS HAVE BEEN KNOWN FOR MANY YEARS; DO
5 YOU SEE THAT?

6 A. YES.

7 Q. AND THIS BOOK IS FOR WIREBONDING?

8 A. THAT'S CORRECT.

9 MR. RENARD: AND IF WE CAN JUST QUICKLY GO TO
10 THE NEXT PAGE, PAGE 11, AND JUST LOOK AT THAT LAST SECTION. WE
11 DON'T NEED TO BELABOR THIS.

12 Q. THAT'S A SECTION WITH RESPECT TO ULTRAVIOLET OZONE
13 CLEANING, UV OZONE ASHING CLEANING, CORRECT?

14 A. YES.

15 Q. IS THIS ONE OF --

16 MR. RENARD: WE CAN TAKE THAT DOWN.

17 Q. IS THIS ONE OF THE REASONS WHY YOU WERE FAMILIAR WITH
18 UV OZONE ASHING FOR WIREBONDING PURPOSES?

19 A. YES, I READ ABOUT IT IN THIS BOOK.

20 Q. NOW, HAVE YOU MADE ANY DETERMINATION IN THE COURSE OF
21 YOUR WORK WHETHER OR NOT INDIGO DEVELOPED ITS WIREBONDING
22 TECHNIQUES?

23 A. YES.

24 Q. YOU HEARD THE TESTIMONY OF MR. SCHWEIKERT?

25 A. YES.

1 Q. AND BASED UPON THAT TESTIMONY AND YOUR INDEPENDENT
2 STUDY, WHAT HAVE YOU BEEN ABLE TO CONCLUDE WITH RESPECT TO
3 INDIGO'S USE OF UV OZONE ASHING?

4 A. WELL, THEY USE IT FOR -- FOR WIREBONDING, AND PAUL
5 SCHWEIKERT WAS THE GENTLEMAN THAT INTRODUCED IT, AND BASED ON,
6 I GUESS, HIS GENERAL KNOWLEDGE AND THE KNOWLEDGE HE GAINED AT
7 HIS PREVIOUS EMPLOYER, APPLIED MAGNETICS.

8 Q. SIR, BASED UPON YOUR -- YOUR WORK AS AN EXPERT IN
9 THIS CASE, DO YOU HAVE AN OPINION WHETHER OR NOT THE USE OF UV
10 OZONE ASH CLEANING FOR WIREBONDING PURPOSES IS OBVIOUS?

11 A. YEAH, I BELIEVE IT IS.

12 Q. DO YOU HAVE AN OPINION WHETHER OR NOT IT'S COMMONLY
13 USED IN THE INDUSTRY?

14 A. YEAH, IT IS.

15 Q. LET'S GO TO NUMBER 13, THE USE OF WET HYDROGEN FIRING
16 TO REDUCE SURFACE DECARBURIZATION. AND FIRST OF ALL, JUST WITH
17 RESPECT TO THAT TOPIC, IS THERE ANYTHING WRONG WITH THE WAY
18 THAT THAT'S WORDED?

19 A. YEAH, IT'S A DOUBLE NEGATIVE. AND ACTUALLY, I -- I
20 PUZZLED OVER THIS FOR A WHILE BECAUSE THE TERM, "REDUCTION," IS
21 A TERM USED IN CHEMISTRY, AND I WAS TRYING TO FIGURE OUT WHAT
22 THE HECK WERE THEY TALKING ABOUT.

23 Q. BUT THEY -- DO YOU UNDERSTAND THAT IT'S ACTUALLY USE
24 OF WET HYDROGEN FIRING TO REDUCE CARBURIZATION ON THE SURFACE?

25 A. YES, YES.

1 Q. WHAT IS THE ISSUE OR PROBLEM ADDRESSED HERE?

2 A. WELL, THE PROBLEM IS THAT CARBON -- THE FUNDAMENTAL
3 PROBLEM IS, IS THAT METHANE IS NOT WELL GETTERED. SO THE --
4 BASED ON LANGAN DOCUMENT AND -- AND THE PEOPLE -- THE OTHER
5 PEOPLE THAT I'VE, YOU KNOW, SPOKEN TO IN THE INDUSTRY AND MY
6 GENERAL KNOWLEDGE, THE METHANE IS OFTEN THE CAUSE OF THE DEWAR
7 TO FAIL. AND THAT'S BECAUSE YOU HAVE THIS MOLECULAR SPONGE,
8 WE'VE TALKED ABOUT, THIS GETTER, AND THE GETTER IS ALWAYS
9 ABSORBING THINGS, BUT IT JUST DOESN'T DO A GOOD JOB WITH
10 METHANE, ABSORBS VERY LITTLE METHANE.

11 SO THE FUNDAMENTAL PROBLEM HERE IS, HOW DO WE
12 REDUCE METHANE? WELL, HYDROGEN GAS WILL GO RIGHT THROUGH THE
13 METAL OF THE DEWAR, AND IF IT COMBINES -- IF IT FINDS CARBON ON
14 THE SURFACE, IT WILL COMBINE WITH THAT AND FORM METHANE, WHICH
15 IS CH₄, ONE CARBON, FOUR HYDROGENS. AND IF IT PRODUCES TOO
16 MUCH OF THIS, IT WILL CAUSE THE DEWAR TO FAIL. SO, THE
17 OBJECTIVE IS TO REDUCE THE AMOUNT OF CARBON BECAUSE THAT'S
18 REALLY THE ONLY CONTROL YOU HAVE OVER IT.

19 Q. NOW, HAVE YOU PERSONALLY USED WET HYDROGEN FIRING FOR
20 THAT VERY PURPOSE?

21 A. YES, I HAVE.

22 Q. CAN YOU EXPLAIN WHEN AND HOW AND --

23 A. SURE. YEAH. THE -- IT WAS ALWAYS MY UNDERSTANDING
24 THAT THIS WAS A PROCESS TO IMPROVE VACUUM LIFE, TO DO EXACTLY
25 WHAT I SAID WITH RESPECT TO REDUCING THE AMOUNT OF METHANE IN

1 THE -- IN THE DEWAR. ACTUALLY, IT WAS ONLY LATER THAT I
2 REALIZED THAT IT CAME FROM THE -- THE -- THE GLASS METAL
3 SEALING BUSINESS. I DIDN'T REALIZE THAT AT FIRST. I ALWAYS
4 THOUGHT THAT IT WAS JUST FOR IMPROVEMENT OF VACUUM LIFE.

5 SO IT WAS KNOWN TO ME FROM MY WORK AT ICC, KNOWN
6 TO ME FROM THE THEORY FROM LANGAN PAPERS THAT I READ BACK THEN,
7 SO, KNOWN FOR -- SINCE I'VE BEEN IN THE INDUSTRY.

8 Q. YOU MENTIONED THE LANGAN PAPERS. WHEN DID YOU BECOME
9 FAMILIAR WITH THOSE, THE '76 AND '77 PAPERS THAT THE JURY HAS
10 SEEN DURING THE COURSE OF THIS TRIAL?

11 A. AS SOON AS I STARTED, PROBABLY, WITHIN MONTHS OF
12 STARTING AT ICC BACK IN 1996.

13 Q. WAS IT PUBLICLY AVAILABLE?

14 A. YEAH.

15 Q. AND DID DR. LANGAN IN ANY WAY DISCLOSE THE USE OF
16 HYDROGEN FIRING?

17 A. YES, HE DID.

18 Q. BY THE WAY, WHAT'S -- WHAT'S THE MATERIAL TYPICALLY
19 MADE OUT OF, THE DEWAR MATERIAL?

20 A. KOVAR IS A VERY COMMON MATERIAL. OTHERS ARE USED,
21 BUT KOVAR IS THE MOST COMMON IN MY EXPERIENCE.

22 Q. BASED UPON YOUR INVESTIGATION AS AN EXPERT IN THIS
23 CASE, MR. KNAUTH, DO YOU HAVE AN OPINION WHETHER THE USE OF WET
24 HYDROGEN FIRING TO REDUCE OR ELIMINATE THE CARBON ON THE
25 HOUSING OF THE DEWAR IS COMMONLY KNOWN IN THE INFRARED

1 INDUSTRY?

2 A. YES, I'D SAY VERY COMMONLY KNOWN.

3 Q. AND AT LEAST BASED UPON AND SINCE THE PUBLICATION OF
4 DR. LANGAN'S WORK, DO YOU HAVE AN OPINION OF WHETHER OR NOT THE
5 USE OF WET HYDROGEN FOR THAT PURPOSE IS OBVIOUS?

6 A. YES, I BELIEVE IT IS.

7 Q. LET'S GO TO NUMBER 19, THE USE OF MULTISOLVENT
8 CLEANING PROCESS FOR WIREBONDING AND ADHESIVE BONDING. WHAT
9 OPINIONS HAVE YOU FORMED WITH RESPECT TO THAT ALLEGED TRADE
10 SECRET?

11 A. WELL, THE -- THE -- CAN I FIRST TALK ABOUT WHAT THE
12 TRADE SECRET IS DESCRIBED AS.

13 Q. YES, SIR.

14 A. THE -- THE TRADE SECRET IS DESCRIBED AS THE USE OF
15 TOLUENE, ACETONE, METHANOL, AND ISOPROPYL, AND ALSO THE USE OF
16 TOLUENE, ACETONE, AND ISOPROPYL WITHOUT METHANOL. AND THE
17 HOLCOMBE AND GINN REPORT SAYS THAT THE SEQUENCE OF OPERATION IS
18 CRITICALLY IMPORTANT, THIS IS A CRITICAL ASPECT OF IT, THE
19 SEQUENCE, AND -- AND SO THAT WOULD BE THE SEQUENCE OF USING
20 TOLUENE FIRST, ACETONE, AND THEN ISOPROPYL OR, YOU KNOW,
21 METHANOL AND ISOPROPYL.

22 Q. BASED UPON YOUR INVESTIGATION, DOES INDIGO USE TAI,
23 TOLUENE, ACETONE, ISOPROPYL, IN THAT ORDER FOR PURPOSES OF
24 CLEANING PRIOR TO WIREBONDING OR ADHESIVE BONDING?

25 A. NO.

1 Q. TELL US A LITTLE BIT, SIR, ABOUT THE LOGIC OF
2 MULTISOLVENTS. WHY WOULD YOU USE MORE THAN ONE SOLVENT TO
3 CLEAN SOMETHING?

4 A. WELL, BECAUSE THINGS THAT YOU WANT TO GET RID OF,
5 THAT YOU WANT TO DISSOLVE, HAVE DIFFERENT POLARITIES. THE
6 CHEMISTRY OF IT IS THEY HAVE DIFFERENT POLARITIES, AND SO YOU
7 WANT TO -- THERE'S THREE DIFFERENT TYPES OF POLARITY. AND IF
8 YOU WANT TO REMOVE -- IF YOU WANT TO REMOVE THE GAMUT OF THE
9 POTENTIAL CONTAMINANTS THAT HAVE DIFFERENT POLARITIES, THEN YOU
10 NEED TO USE SOLVENTS THAT HAVE THOSE SAME POLARITIES WITH THE
11 CONCEPT THAT LIKE DISSOLVES LIKE, SO IF IT'S A -- IF IT'S A --
12 YOU KNOW, POLAR APROTIC IS ONE OF THE POLARITIES, IF YOU HAVE A
13 CONTAMINANT THAT HAS THAT CHEMICAL QUALITY TO IT, THAT POLARITY
14 TO IT, THEN YOU NEED A SOLVENT THAT HAS THAT POLARITY TO IT, OR
15 IT COULD DISSOLVE IT AWAY. OTHERWISE, YOU'RE NOT GOING TO
16 DISSOLVE IT AWAY.

17 Q. WOULD A -- AND JUST SO WE UNDERSTAND WHAT YOU'RE
18 SAYING, WOULD A NONPOLAR SOLVENT DISSOLVE AN APROTIC SOLVENT?

19 A. NO.

20 Q. WOULD A PROTIC SOLVENT DISSOLVE A NONPOLAR MATERIAL?

21 A. NO.

22 Q. IF YOU WANTED TO COVER THE GAMUT, WHAT WOULD YOU DO?
23 IN OTHER WORDS, COME UP WITH A RECIPE, IF YOU WILL, FOR -- FOR
24 RIDDING YOURSELF OF THOSE THREE DIFFERENT TYPES OF MATERIALS.
25 WHAT WOULD YOU DO?

1 A. YOU WOULD USE ALL THREE.

2 Q. DO YOU UNDERSTAND -- HAVE AN UNDERSTANDING OF WHETHER
3 OR NOT RAYTHEON'S CLAIMED TRADE SECRET INVOLVES SOME SPECIAL
4 KIND OF TOLUENE OR ACETONE OR ISOPROPYL?

5 A. NO.

6 Q. AND ARE THOSE MATERIALS AVAILABLE --

7 A. YES.

8 Q. -- PUBLICLY? LET'S, SIR, THEN GO TO NUMBER 26, AND
9 NUMBER 28. LET'S -- LET'S DEAL WITH THEM TOGETHER. AND BY THE
10 WAY, IS THAT A LOGICAL WAY OF PROCEEDING?

11 A. YES.

12 Q. AND WHY? CAN YOU JUST TELL US?

13 A. WELL, THEY BOTH INVOLVE VACUUM LIFE PREDICTIONS.
14 THE -- BOTH VACUUM LIFE PREDICTIONS FROM A KIND OF FUNDAMENTALS
15 FIRST PRINCIPLE SORT OF BASIS AND THEN ALSO FROM A TESTING TO
16 VERIFY BASIS, SO THEY BOTH REALLY ARE RELATED. IT'S
17 ESSENTIALLY THE SAME THING. IT'S PROBABLY DIFFERENT HALVES OF
18 THE -- OF THE TOTAL PROCESS.

19 Q. NUMBER 26 BEING VACUUM LIFETIME PREDICTIONS AND
20 NUMBER 28 BEING PROCESS METHOD OF PERFORMING VACUUM LIFE
21 PREDICTIONS FOR THE UNCOOLED CERAMIC VACUUM PACKAGE.

22 ARE METHODS OF COMING UP WITH VACUUM LIFETIME
23 PREDICTIONS OBVIOUS TO YOU?

24 A. YES.

25 Q. WHAT -- WHAT WOULD YOU, AS AN ENGINEER, USE OR RELY

1 UPON IN ORDER TO -- TO PREDICT VACUUM LIFE OF MATERIALS IN A
2 SEALED DEWAR?

3 A. FROM A METHOD STANDPOINT OR FROM A DATA STANDPOINT?

4 Q. YES, SIR, I MEAN, ARE THERE PHYSICAL LAWS OR
5 ENGINEERING PROPERTIES?

6 A. OH, YEAH, ABSOLUTELY. THERE'S THE -- INITIALLY, I
7 STARTED USING THE LANGAN PAPERS. I STUDIED THEM EXTENSIVELY,
8 BUT THEN AFTER A WHILE, I DIDN'T EVEN LOOK AT THE LANGAN PAPERS
9 ANYMORE. YOU JUST GO FROM FIRST PRINCIPLES. YOU KNOW, IF YOU
10 LEARN THE -- THE IDEAL GAS LAWS AND NORMAL RATE EQUATIONS THAT
11 ARE, YOU KNOW, TAUGHT IN COLLEGE, THEN YOU CAN -- YOU PUT THOSE
12 THINGS TOGETHER, AND -- AND YOU'VE ESSENTIALLY HAVE THE VACUUM
13 LIFE PREDICTION METHOD FROM A, YOU KNOW, PREDICTION STANDPOINT.

14 Q. YOU MENTIONED THAT YOU INITIALLY USED THE LANGAN
15 PAPERS?

16 A. YES.

17 Q. THAT -- THAT'S THE 1976, 1977 PAPERS WE LOOKED AT?

18 A. YES.

19 Q. AND YOU BEGAN USING THOSE WHEN IN THE COURSE OF YOUR
20 CAREER?

21 A. 1996, PROBABLY.

22 Q. AND CAN YOU TELL US WHETHER OR NOT THEY DISCLOSED
23 A -- A METHOD OF DOING VACUUM LIFE PREDICTIONS?

24 A. YES, THEY DO.

25 Q. IS -- AND BY THE WAY, SIR, ARE -- ARE THOSE LAWS THAT

1 YOU MENTIONED AND THE -- THE LANGAN PAPER CALCULATIONS AND
2 FORMULAS THAT WERE DISCLOSED BACK IN THE '70'S, ARE THEY
3 APPLICABLE TO COOLED DEWARS, UNCOOLED, OR BOTH?

4 A. BOTH. IN FACT, I'VE USED IT FOR THINGS THAT
5 AREN'T -- DON'T HAVE DETECTORS AT ALL.

6 Q. SO, LET ME ASK YOU, ARE -- ARE METHODS -- DO YOU HAVE
7 AN OPINION ON WHETHER OR NOT METHODS FOR MAKING LIFETIME
8 PREDICTIONS -- VACUUM LIFE PREDICTIONS FOR COOLED AND UNCOOLED
9 CAMERAS, DO YOU HAVE AN OPINION ON WHETHER OR NOT THOSE ARE
10 OBVIOUS, GIVEN THE STATE OF PLAY IN -- WHEN YOU JOINED YOUR
11 EMPLOYER IN 1996?

12 A. YES, I -- I THINK THEY ARE OBVIOUS.

13 Q. AND -- AND DO YOU HAVE AN OPINION WHETHER OR NOT THEY
14 WERE COMMONLY KNOWN BACK IN THE LATE '90'S?

15 A. YES, THEY WERE COMMONLY KNOWN.

16 Q. WHAT THEN DO YOU UNDERSTAND THE ALLEGED TRADE SECRET
17 TO BE THAT RAYTHEON IS CLAIMING IN NUMBERS 26 AND 28?

18 A. WELL, THE VACUUM LIFETIME PREDICTION, WHICH I THINK
19 IS 26, IS THE -- IT'S MY UNDERSTANDING THAT IT IS THE AMPOULE
20 DATA ITSELF.

21 Q. WHAT DOES THAT MEAN? WHAT DO YOU UNDERSTAND IT TO
22 MEAN?

23 A. AMPOULE DATA IS THE -- IS THE DATA THAT RAYTHEON
24 COLLECTED -- WHAT THEY WOULD DO IS THEY WOULD TAKE A -- THEY
25 WOULD -- THEY WERE SEEKING TO SOLVE THE PROBLEM OF HAVING VERY

1 SMALL COMPONENTS IN THESE DEWARS AND TRYING TO FIGURE OUT WHAT
2 THE OUTGASSING RATE IS FROM A VERY SMALL COMPONENT. THE
3 INSTRUMENTS THAT YOU USE TO MEASURE OUTGASSING ARE ONLY JUST SO
4 SENSITIVE, SO THEY WOULD TAKE ONE OF THESE SMALL COMPONENTS,
5 THEY WOULD PUT IT INTO A -- INTO A LITTLE GLASS BUBBLE, AND
6 THEY WOULD LET THAT GLASS BUBBLE, YOU KNOW, SIT. MAYBE THEY'D
7 BAKE IT OR WHATEVER THEY WOULD DO.

8 IT WOULD OUTGAS OVER TIME AND ACCUMULATE A
9 VOLUME OF THIS GAS, SO THEN, AT THE APPOINTED HOUR, THEY
10 WOULD -- THEY'D USE A LITTLE PLUNGER INSIDE OF A -- INSIDE OF A
11 VACUUM VESSEL, AND THEY'D BREAK THE GLASS. NOW ALL OF THAT GAS
12 THAT WAS -- HAD BEEN EVOLVED OVER TIME IS NOW FREED UP INTO THE
13 VACUUM SYSTEM AND NOW AT A HIGH ENOUGH LEVEL THAT THEIR
14 INSTRUMENTS TURNED OUT REALLY VERY SENSITIVE CAN ALL OF A
15 SUDDEN READ.

16 SO YOU CAN THEN USE SOME SIMPLE EQUATIONS TO
17 BACK OUT AND FIGURE OUT WHAT THE OUTGASSING RATE WAS OVER TIME
18 BECAUSE YOU KNEW HOW LONG IT HAD BEEN SINCE YOU SEALED THE
19 VESSEL, SINCE YOU SEALED THIS LITTLE AMPOULE. SO THAT'S
20 BASICALLY WHAT IT WAS.

21 Q. DO YOU RECALL ME ASKING MR. HOLCOMBE HOW VOLUMINOUS
22 THIS AMPOULE DATA THAT RAYTHEON GATHERED WAS?

23 A. YES.

24 Q. AND WHAT DO YOU UNDERSTAND? IS THIS SOMETHING THAT
25 SOMEONE COULD LEAVE ONE COMPANY AND HAVE IN HIS OR HER HEAD ALL

1 OF THIS DATA AND BE ABLE TO USE IT, THEN, WHEN GOING TO A NEW
2 EMPLOYER?

3 A. THEY -- YOU COULDN'T DO THAT.

4 Q. WHY?

5 A. IT'S -- IT'S JUST -- IT'S A BUNCH OF NUMBERS, IT'S
6 EXPONENTS, IT'S PARTICULAR MATERIALS AND PROCESSING HISTORY,
7 AND, YOU KNOW, YOU COULDN'T REMEMBER A PAGE OF IT LET ALONE A
8 THICK VOLUME.

9 Q. HAVE YOU SEEN ANY EVIDENCE, MR. KNAUTH, IN THE COURSE
10 OF YOUR INVESTIGATION THAT ANYONE THAT WENT TO WORK FOR INDIGO
11 STOLE OR TOOK WITH HIM OR HER THAT AMPOULE DATA?

12 A. YEAH, THERE'S NO EVIDENCE OF THAT WHATSOEVER.

13 Q. CONVERSELY, HAVE YOU SEEN ANY EVIDENCE RELATING TO
14 ANY INDEPENDENT DEVELOPMENT THAT INDIGO MAY HAVE DONE WITH
15 RESPECT TO MAKING VACUUM LIFE PREDICTIONS?

16 A. YES.

17 Q. WHAT HAVE YOU SEEN IN THAT REGARD?

18 A. WELL, THE -- THEY, OF COURSE, HAVE A RESIDUAL GAS
19 ANALYZER, THIS RGA MACHINE. THEY -- THEY'VE TAKEN MEASUREMENTS
20 WITH THAT. THEY'VE HIRED A -- THEY HIRED A CONSULTANT NAMED
21 DENNIS PEASE, WHO WAS A PH.D., AND -- TO HELP ASSIST THEM WITH
22 THIS. THEY'VE LOOKED AT PUBLICLY AVAILABLE SOURCES, AND
23 INCLUDING THE LANGAN PAPERS, AND I THINK IN THE FIRST DAYS,
24 MAYBE BEST GUESSES AND LATER ON, THEY GET MUCH MORE
25 SOPHISTICATED ABOUT IT IN DOING ALL THEIR OWN TESTING.

1 Q. AND BY THE WAY, THAT -- THAT PHENOMENON YOU JUST
2 DESCRIBED OF MAKING BEST GUESSES AND THEN WORKING WITH IT AND
3 SEEING HOW IT GOES AND TWEAKING AND APPLYING -- IS THAT KIND OF
4 A STANDARD ENGINEERING PROTOCOL? IS THAT THE WAY ENGINEERS
5 WORK?

6 A. YEAH, ABSOLUTELY.

7 Q. IS THAT THE WAY YOU'VE WORKED?

8 A. NO QUESTION ABOUT IT.

9 Q. YOU MENTIONED THIS DENNIS PEASE, AND I'M NOT SURE
10 WE'VE HEARD HIS NAME BEFORE. WHAT ROLE DID HE PLAY IN VACUUM
11 LIFE PREDICTION EFFORTS AT INDIGO?

12 A. HE ASSISTED IN CALCULATING THIS VACUUM LIFE OF THEIR
13 UNCOOLED PACKAGES.

14 Q. BASED UPON YOUR STUDIES, SIR, DO YOU HAVE AN OPINION
15 WHETHER OR NOT METHODS OF DETERMINING VACUUM LIFE BOTH IN
16 COOLED AND UNCOOLED PACKAGES, THAT IS, NUMBERS 26 AND NUMBER 28
17 ARE GENERALLY KNOWN WITHIN THE INFRARED INDUSTRY?

18 A. YES, I BELIEVE THAT THEY ARE.

19 Q. LET'S THEN TAKE A LOOK AT NUMBER 29, WHICH IS
20 ENTITLED, "METHOD FOR PLATING AND SOLDERING THE MICROBOLOMETER
21 LOWER ASSEMBLY AND FRAME ASSEMBLY."

22 FIRST OF ALL, BY THE WORD, "MICROBOLOMETER,"
23 WHAT DOES THAT TELL US?

24 A. MICROBOLOMETER IS AN UNCOOLED INFRARED DETECTOR.

25 Q. METHOD OF PLATING. LET'S BREAK THIS DOWN INTO ITS

1 TWO COMPONENT PARTS. WHAT DO YOU UNDERSTAND TO BE THE METHOD
2 OF PLATING THAT IS CLAIMED AS A TRADE SECRET BY RAYTHEON IN
3 THIS CASE?

4 A. BY WAY OF METHOD, I REALLY DON'T KNOW. I MEAN,
5 IT'S --

6 Q. AND I'M SORRY. BY MATERIAL.

7 A. BY MATERIALS? OKAY. THE -- THERE'S A BASE LAYER
8 OF -- OF I BELIEVE IT'S CHROME, TI, OR TUNGSTEN AND THEN NICKEL
9 FOLLOWED BY GOLD.

10 Q. THE -- HAVE YOU -- WERE YOU PRESENT IN THE COURTROOM
11 WHEN I BELIEVE I SHOWED MR. HOLCOMBE, IF I'M NOT MISTAKEN, A
12 PATENT THAT SHOWED PLATING OF NICKEL WITH THE GOLD OVERLAY?

13 A. YES.

14 Q. AND -- AND IS THERE SOMETHING -- SO, THAT WAS
15 PUBLICLY DISCLOSED?

16 A. YEAH, IT'S VERY COMMON.

17 Q. AND IN FACT, DID YOU USE THAT PLATING SCHEME AT
18 INFRARED COMPONENTS CORPORATION, ICC?

19 A. YES.

20 Q. IN WHAT WAY?

21 A. WELL, FOR PREPARATION FOR SOLDER PACKAGING, FOR --
22 THERE WAS ONE PROJECT THAT USED A -- A CERAMIC BASE VERY
23 SIMILAR TO THIS, AND THE SURFACE WAS PREPARED BY VENDOR, AND --
24 AND WE SOLDERED WINDOWS -- FRAMES OF WINDOWS TOGETHER USING
25 THAT -- ESSENTIALLY THE SAME PROCESS.

1 Q. WHAT IS IT ABOUT NICKEL WITH A GOLD OVERLAY THAT'S --
2 THAT'S HELPFUL FOR SOLDERING?

3 A. WELL, NICKEL IS VERY EASY TO SOLDER TO SO LONG AS IT
4 DOESN'T HAVE OXIDES. THERE'S OXIDES THAT DEVELOP. IT SITS IN
5 THE AIR, AND IT ABSORBS SOME OF THESE OXIDES, AND IT CREATES A
6 FILM THAT IS -- THAT INHIBITS THE SOLDERING. SO, WHAT YOU DO
7 TO SOLVE THAT PROBLEM IS YOU PLATE IT WITH GOLD.

8 NOW, THE PROBLEM YOU HAVE IS THAT GOLD, WHEN
9 TAKEN UP INTO THE SOLDER, CAUSES OTHER PROBLEMS, SO THE GOLD'S
10 JUST THERE TO MAKE IT EASY TO SOLDER TO INITIALLY. IT ALMOST
11 DISAPPEARS, AND THEN YOU HAVE THE NICKEL EXPOSED UNDERNEATH,
12 AND YOU SOLDER TO THAT.

13 Q. DOES -- ARE THERE ANY INDUSTRY STANDARDS THAT -- THAT
14 ADOPT A NICKEL WITH A GOLD OVERLAY PLATING SCHEME?

15 A. YES, ABSOLUTELY.

16 Q. WHAT IS THAT?

17 A. WELL, THERE'S A COMMONLY KNOWN PLATING SCHEME IN THE
18 PRINTER CIRCUIT BOARD INDUSTRY CALLED ENIG, ELECTROLESS NICKEL
19 IMMERSION GOLD, AND IT'S ESSENTIALLY THE SAME THING, VERY
20 COMMON IN THE PRINTER CIRCUIT BOARD INDUSTRY.

21 Q. IS THAT RELATED TO ANSI IN ANY WAY?

22 A. YEAH, THAT'S THE AMERICAN NATIONAL STANDARDS
23 INSTITUTE STANDARDS.

24 Q. NOW, DOES INDIGO, ITSELF, DO ANY PLATING AND
25 SOLDERING --

1 A. THEY --

2 Q. -- AS DESCRIBED IN THIS PURPORTED TRADE SECRET?

3 A. PLATING AND SOLDERING.

4 Q. LET ME JUST ASK -- DO THEY DO IT OR DOES A VENDOR DO
5 IT?

6 A. A VENDOR DOES IT.

7 Q. AND HOW DOES THAT WORK AS YOU UNDERSTAND IT?

8 A. THE -- THE MATERIALS ARE SPECIFIED TO THE VENDOR.

9 THE VENDOR DOES THE ACTUAL PLATING USING METHODS HE CHOOSES.

10 Q. NOW, CAN YOU TELL US WHETHER OR NOT INDIGO SPECIFIES
11 THE MANNER IN WHICH THE PLATING IS TO OCCUR?

12 A. THEY DO NOT SPECIFY THE MANNER.

13 Q. THAT'S UP TO WHOM?

14 A. THAT'S UP TO WHOEVER THE PLATING VENDOR IS.

15 Q. NOW, THE OTHER PART OF THIS ALLEGED TRADE SECRET
16 NUMBER 29 IS SOLDERING. WHAT KIND OF SOLDER IS AT ISSUE HERE?

17 A. INDIUM GOLD. I'M SORRY. I MADE A MISTAKE THERE.
18 INDIUM LEAD, PRINCIPALLY.

19 Q. NOW, CAN YOU TELL US WHETHER OR NOT AN INDIUM LEAD
20 ALLOY FOR SOLDERING WORKS WITH GOLD?

21 A. IT DOES WORK WITH GOLD.

22 Q. NOW, DO YOU KNOW WHETHER OR NOT INDIUM LEAD AS AN
23 ALLOY FOR SOLDERING WAS GENERALLY KNOWN WITHIN THE INFRARED
24 INDUSTRY?

25 A. YES.

1 Q. AND WHAT IS YOUR UNDERSTANDING OF HOW THE ALLOY --
2 SOLDER ALLOY WAS SELECTED AT INDIGO?

3 A. WELL, THEY DID A VERY EXTENSIVE SERIES OF TESTS.
4 PAUL SCHWEIKERT DID A SERIES OF TESTS THAT HE DOCUMENTED IN HIS
5 NOTEBOOK, AND HE TESTED MANY DIFFERENT SOLDERS, TRIED THEM IN
6 DIFFERENT WAYS, AND HAD SOME SUCCESSES AND NOT SOME SUCCESSES.
7 AND BASED ON THAT, HE EVENTUALLY, FOR THE FIRST VERSION OF THE
8 PRODUCT HE WAS DEVELOPING, CAME UP WITH INDIUM LEAD SOLDER.

9 Q. AND DO YOU RECALL MR. SCHWEIKERT'S TESTIMONY, IN
10 FACT, IN FRONT OF THE JURY ABOUT THAT VERY PROCESS?

11 A. YES.

12 Q. THEN, SIR, NUMBER 30, IN SITU SOLDER SEAL PACKAGE
13 ASSEMBLY PROCESS. TO WHAT KINDS OF INFRARED PACKAGES DO YOU
14 UNDERSTAND THIS APPLIES?

15 A. UNCOOLED.

16 Q. NOW, CAN YOU TELL US WHETHER OR NOT -- OR DID YOU
17 UNDERTAKE TO DETERMINE WHETHER OR NOT INDIGO DEVELOPED ITS OWN
18 IN SITU SOLDER SEAL ASSEMBLY PROCESS FOR UNCOOLED PACKAGES?

19 A. YES, THEY ABSOLUTELY DID.

20 Q. WHAT DO YOU KNOW ABOUT THAT, BASED UPON YOUR
21 INVESTIGATION?

22 A. WELL, IT'S A GOOD STORY, BUT THEY -- YEAH, THEY
23 INVESTIGATED DIFFERENT VENDORS THAT COULD PROVIDE EQUIPMENT FOR
24 THEM THAT ESSENTIALLY DOES THIS. ONE WAS SST, AND THEY DID A
25 LOT OF WORK LOOKING AT THE SST MACHINE. IN THE END, THEY

1 DECIDED TO START FROM SCRATCH AND DEVELOP THEIR OWN, SO IT'S
2 A -- IT'S A DEVELOPED AT INDIGO, YOU KNOW, SEALING METHOD.
3 THEY DEVELOPED THE VESSELS AND THE OTHER TOOLING AND SO FORTH
4 THAT'S NEEDED FOR THAT. SO THEY REALLY STARTED FROM SCRATCH
5 WITH THAT.

6 Q. AND DID YOU INVESTIGATE WHETHER OR NOT THERE HAD BEEN
7 ANY PUBLIC DISCLOSURE OF SIMILAR IN SITU PROCESSES WITH RESPECT
8 TO COOLED DETECTORS?

9 A. YES, COOLED DETECTORS.

10 Q. AND DO YOU RECALL US TALKING ABOUT THAT IN THE COURSE
11 OF THIS TRIAL, WHICH I BELIEVE IS DEFENDANTS' EXHIBIT 1475
12 WHICH RELATES TO THE VACUUM PACKAGING ASSEMBLY SYSTEM OR VPAS?

13 A. YES.

14 Q. HOW DOES THE SYSTEM FOR IN SITU ASSEMBLY OF COOLED
15 PACKAGES IN THAT PATENT -- HOW DOES THAT -- ARE THERE
16 SIMILARITIES BETWEEN THAT AND WHAT IS APPARENTLY BEING CLAIMED
17 BY RAYTHEON HERE WITH RESPECT TO THE IN SITU ASSEMBLY OF
18 UNCOOLED PACKAGES?

19 A. YEAH, BUT IT'S COMPLETELY DIFFERENT. THE VPAS SYSTEM
20 FROM BACK IN 1992 INVOLVED MOVING PARTS AROUND INSIDE OF THE
21 VACUUM CHAMBER, MOVING THINGS FROM CHAMBER TO CHAMBER, AND THEN
22 THE FINAL SEAL WAS ACTUALLY A COPPER COLD WELD. THERE WAS A
23 HYDRAULIC RAM THAT PUSHED DOWN AND MASHED TOGETHER TWO
24 DIFFERENT COPPER SURFACES, PLATED SURFACES, THAT THEN FORMED
25 THE SEAL. SO, THAT WAS THE FINAL VACUUM SEAL INSIDE THE VPAS

1 SYSTEM, AND IT'S JUST COMPLETELY DIFFERENT FROM ANYTHING
2 RELATED TO UNCOOLED PACKAGING THAT I'VE SEEN HERE.

3 Q. NOW, SIR, WITH RESPECT TO THE PROCESSES THAT ARE USED
4 WITH THIS IN SITU ASSEMBLY OF UNCOOLED PACKAGES, DO THEY DIFFER
5 AT ALL BETWEEN THAT THAT IS USED BY RAYTHEON AND THAT THAT IS
6 USED BY INDIGO?

7 A. YES, THEY DO.

8 Q. IN WHAT WAY?

9 A. WELL, THE -- THE INDIGO PROCESS STACKS PARTS UP, AND
10 THEY RUN THROUGH -- THROUGH A VACUUM AND TEMPERATURE METHOD,
11 AND WHEN THE -- WHEN THE FINAL SYSTEM IS SEALED, THE GETTER IS
12 YET UNFIRED. WE TALKED ABOUT THIS GETTER, WHICH IS THIS KIND
13 OF MOLECULAR SPONGE, AND YOU HAVE TO FIRE THAT GETTER IN ORDER
14 TO DRIVE OFF ALL OF THE GASES THAT IT ABSORBS WHEN IT'S EXPOSED
15 TO THE ATMOSPHERE. IT'S KIND OF LIKE WRINGING OUT A SPONGE.

16 SO THE FUNDAMENTAL DIFFERENCES HERE IS THAT
17 RAYTHEON FIRES THAT GETTER BEFORE THEY ASSEMBLE THE PROCESS --
18 BEFORE THEY ASSEMBLE THE VACUUM ENCLOSURE, WHICH IS THE LOGICAL
19 THING TO DO. THAT'S WHAT WE WOULD HAVE DONE AND DID DO. BUT
20 INDIGO DID SOMETHING COMPLETELY DIFFERENT. THEY FIRED THE
21 GETTER AFTER THEY SEALED THE -- THE THING.

22 NOW, IMAGINE THAT YOU HAVE A SPONGE, AND YOU'RE
23 SQUEEZING IT OUT. THE -- IF YOU PUT A SPONGE IN A PLASTIC BAG
24 FILLED WITH WATER AND YOU SQUEEZED IT OUT, WHAT GOOD IS THAT
25 GOING TO DO FOR YOU? IT'S COMPLETELY COUNTERINTUITIVE. YOU

1 WOULD WANT TO -- IF YOU WANT TO ABSORB WATER IN THE BAG, YOU
2 WOULD SQUEEZE IT OUT FIRST AND THROW IT IN THE BAG.

3 THAT'S KIND OF WHAT RAYTHEON DOES WITH THEIR
4 GETTER FIRING SEQUENCE. INDIGO DOES THIS COUNTERINTUITIVE
5 THING OF A METHOD OF FIRING THE GETTER AFTER THE WHOLE SYSTEM
6 IS CLOSED UP, AFTER THE VACUUM PACKAGE IS CLOSED UP.
7 COMPLETELY DIFFERENT.

8 Q. AND BETWEEN THE TWO METHODS OF INDIGO FIRING THE
9 GETTER AFTER THE PACKAGE IS SEALED AND RAYTHEON'S METHOD OF
10 FIRING IT BEFORE IT'S SEALED, WHICH OF THOSE TWO IS -- IF YOU
11 HAVE AN OPINION, THE NONOBVIOUS SOLUTION?

12 A. YEAH, THE NONOBVIOUS ONE IS DOING IT AFTER THE
13 PACKAGE IS SEALED.

14 Q. AND WHO DOES THAT?

15 A. THAT IS WHAT INDIGO DOES.

16 MR. RENARD: YOUR HONOR, IF I MAY HAVE JUST A
17 SECOND TO CONFER.

18 THE COURT: ALL RIGHT.

19 Q. (BY MR. RENARD) ONE FINAL QUESTION, MR. KNAUTH. ARE
20 YOU AWARE OF -- I THINK THIS WAS IN MR. SCHWEIKERT'S
21 TESTIMONY -- THE PATENT THAT INDIGO/FLIR RECEIVED ON ITS IN
22 SITU UNCOOLED PACKAGE?

23 A. YES.

24 Q. ARE YOU AWARE OF THAT?

25 MR. RENARD: THAT'S ALL I HAVE, YOUR HONOR.

1 I'LL PASS THE WITNESS.

2 THE COURT: OKAY. LADIES AND GENTLEMEN, IT IS
3 ABOUT 12:23. DO YOU WANT TO BREAK UNTIL 1:30 OR 1:45? 1:45?
4 OKAY. I'LL SEE YOU BACK AT 1:45.

5 COURT SECURITY OFFICER: ALL RISE.

6 (JURY NOT PRESENT)

7 THE COURT: WE'RE IN RECESS UNTIL 1:45 P.M. FOR
8 LUNCH. THANK YOU.

9 (A BREAK WAS TAKEN AT 12:24 P.M.)

10 (JURY NOT PRESENT)

11 COURT SECURITY OFFICER: ALL RISE.

12 THE COURT: THANK YOU. PLEASE BE SEATED. OKAY.

13 MR. MCDOWELL, YOU'RE GOING TO CROSS-EXAMINE MR. KNAUTH?

14 MR. MCDOWELL: YES, YOUR HONOR.

15 THE COURT: ALL RIGHT. I JUST THOUGHT I WOULD
16 UPDATE BOTH SIDES ON YOUR REMAINING TIME. THE PLAINTIFF HAS
17 2 HOURS AND 8 MINUTES REMAINING AS OF RIGHT NOW.

18 THE DEFENDANTS HAVE 4-AND-A-HALF HOURS REMAINING
19 AS OF RIGHT NOW.

20 OKAY. EVERYONE'S HERE, SO MR. WESTBERG, GO
21 AHEAD AND BRING IN THE JURY.

22 COURT SECURITY OFFICER: ALL RISE.

23 (JURY PRESENT)

24 THE COURT: ALL RIGHT. YOU MAY BE SEATED.

25 MR. MCDOWELL?

1 MR. MCDOWELL: THANK YOU, YOUR HONOR.

2 CROSS-EXAMINATION OF JONATHAN KNAUTH

3 BY MR. MCDOWELL:

4 Q. GOOD AFTERNOON, MR. KNAUTH.

5 A. GOOD AFTERNOON.

6 Q. IT'S MY UNDERSTANDING THAT YOU WORK FOR A COMPANY OR
7 WORKED FOR A COMPANY CALLED ICC; YOU TESTIFIED ABOUT THAT
8 EARLIER?

9 A. YES.

10 Q. WHO DO YOU PRESENTLY WORK FOR?

11 A. CRITICAL IMAGING.

12 Q. NOW, IS -- IS -- AM I CORRECT IN UNDERSTANDING THAT
13 CRITICAL IMAGING BASICALLY CAME IN AND TOOK OVER ICC SO IT'S A
14 CONTINUATION OF YOUR EMPLOYMENT?

15 A. THAT'S -- THAT'S FAIRLY CORRECT.

16 Q. SO, SAME BUILDING, SAME JOB, JUST DIFFERENT COMPANY
17 NAME?

18 A. THAT'S CORRECT.

19 Q. AND ICC, THAT WAS YOUR VERY FIRST INFRARED JOB, TRUE?

20 A. YES, IT WAS.

21 Q. OKAY. SO, YOUR INFRARED EXPERIENCE BEGAN WITH ICC IN
22 1996, RIGHT?

23 A. YES.

24 Q. I BELIEVE YOU TESTIFIED THAT ICC DID WORK FOR AMBER
25 AND SBRC; DID I HEAR THAT RIGHT?

1 A. YES.

2 Q. WHEN ICC WAS DOING WORK FOR AMBER AND SBRC, IT DID
3 THAT WORK UNDER A -- A NONDISCLOSURE AGREEMENT, RIGHT?

4 A. ACTUALLY, I DON'T KNOW THAT. I COULDN'T FIND ANY.

5 Q. LET ME SEE IF I CAN HELP YOU.

6 MR. MCDOWELL: MAY I APPROACH THE WITNESS, YOUR
7 HONOR?

8 THE COURT: YES.

9 Q. (BY MR. MCDOWELL) MR. KNAUTH, I'VE HANDED YOU A
10 DOCUMENT. DO YOU RECOGNIZE IT?

11 A. I DON'T RECOGNIZE IT. I'VE SEEN SIMILAR ONES BUT NOT
12 THIS ONE.

13 Q. SURE. IF YOU'LL FLIP TO THE SECOND PAGE, THERE'S --
14 THERE'S A SIGNATURE UNDERNEATH A BLOCK THAT SAYS, AGREED TO AND
15 ACCEPTED BY; DO YOU SEE THAT?

16 A. YES.

17 Q. AND THIS -- ONE OF THE SIGNATORIES IS INFRARED
18 COMPONENTS CORPORATION?

19 MR. RENARD: YOUR HONOR, I'M GOING TO OBJECT TO
20 THE USE OF THIS DOCUMENT. IF IT WAS ATTEMPTED TO USE TO
21 REFRESH RECOLLECTION, IT DIDN'T. NOW WE'RE GOING INTO THE
22 SUBSTANCE OF IT, AND THIS HAS NOT BEEN PRODUCED, IT DOESN'T
23 BEAR A BATES NUMBER, IT'S NOT AN EXHIBIT NUMBER, AND I WOULD
24 OBJECT TO ITS USE.

25 MR. MCDOWELL: IT'S IMPEACHMENT, YOUR HONOR. HE

1 SAID THERE WASN'T A CONFIDENTIAL DISCLOSURE AGREEMENT. THIS IS
2 THE CONFIDENTIAL DISCLOSURE AGREEMENT AT ISSUE.

3 MR. RENARD: IT'S NOT IMPEACHMENT. IMPEACHMENT
4 HAS TO DO WITH A STATEMENT MADE BY THE WITNESS, AND
5 FURTHERMORE, MR. KNAUTH SAID, I WASN'T AWARE OF ONE, I LOOKED
6 FOR ONE AND DIDN'T FIND IT. THIS ISN'T IMPEACHMENT. IT'S JUST
7 ATTEMPT TO --

8 THE COURT: IF HE SAID HE DIDN'T KNOW OF ONE,
9 THEN --

10 MR. MCDOWELL: HE SPENT MOST OF HIS --

11 THE COURT: -- THEN THAT'S TRUE, I GUESS.

12 MR. MCDOWELL: WELL, THERE IS A CONFIDENTIAL
13 DISCLOSURE AGREEMENT.

14 MR. RENARD: BUT, YOUR HONOR, I OBJECT TO THAT
15 STATEMENT.

16 THE COURT: WELL, I DON'T KNOW WHAT THAT
17 DOCUMENT IS.

18 MR. MCDOWELL: I'LL PUT A STICKER ON IT AND
19 PROVE IT UP WITH THIS WITNESS, AND THEN WE'LL MARK IT AS AN
20 EXHIBIT.

21 THE COURT: I UNDERSTAND THAT THERE'S AN
22 OBJECTION TO IT BECAUSE IT WASN'T PRODUCED EARLIER.

23 MR. MCDOWELL: IT'S IMPEACHMENT.

24 THE COURT: NO, NO, NO, NO. DO YOU WANT TO GO
25 FORWARD WITH THIS?

1 MR. MCDOWELL: I DO.

2 THE COURT: YOU WANT TO HAVE AN ORDER, OKAY.

3 LADIES AND GENTLEMEN, YOU'LL HAVE TO GO WITH THE
4 COURT OFFICER.

5 MR. MCDOWELL: I THINK I CAN ASK THE WITNESS
6 SOME QUESTIONS, YOUR HONOR. I'M NOT -- I THINK I CAN ASK THE
7 WITNESS SOME QUESTIONS.

8 THE COURT: WELL, IF YOU'RE OFFERING THE EXHIBIT
9 AND I NEED TO HEAR ARGUMENTS AND I NEED TO LOOK AT THE EXHIBIT,
10 I'M GOING TO HAVE TO EXCUSE THE JURY.

11 COURT SECURITY OFFICER: ALL RISE.

12 (JURY NOT PRESENT)

13 THE COURT: ALL RIGHT. TAKE YOUR SEATS. OKAY,
14 LET ME HAVE A COPY. DO YOU HAVE AN EXTRA COPY? LET ME LOOK
15 BACK AT WHAT THE WITNESS SAID.

16 OKAY. THE QUESTION WAS, WHEN ICC WAS DOING WORK
17 FOR AMBER AND SBRC, IT DID THAT WORK UNDER A NONDISCLOSURE
18 AGREEMENT, RIGHT? ANSWER, ACTUALLY, I DON'T KNOW THAT. I
19 COULDN'T FIND ANY.

20 SO, HOW DOES THIS IMPEACH HIM?

21 MR. MCDOWELL: HE SAID HE COULDN'T FIND IT. I'M
22 IMPEACHING HIS ABILITY TO FIND IT BECAUSE THERE'S ONE FROM
23 HIS -- THERE IS ONE THAT'S IN EXISTENCE, AND THERE IS ONE
24 THAT'S IN EXISTENCE. THAT IMPEACHES THE -- HIS INABILITY TO
25 LOCATE A COPY OF THE CDA.

1 THE COURT: WAS IT PRODUCED TO HIM?

2 MR. MCDOWELL: JUST NOW.

3 THE COURT: THIS DOCUMENT?

4 MR. MCDOWELL: YES.

5 THE COURT: NO, WAS IT PRODUCED TO HIM EARLIER?

6 HOW WOULD HE HAVE FOUND IT IF IT WASN'T PRODUCED TO HIM

7 EARLIER?

8 MR. MCDOWELL: IT WOULD BE IN ICC FILES, YOUR

9 HONOR. HE SAYS, I'M ICC.

10 THE COURT: ARE YOU THE OWNER OF ICC, OR WERE

11 YOU?

12 THE WITNESS: NO.

13 MR. MCDOWELL: HIS TESTIMONY IS THAT HE'S THE

14 ONE THAT MAKES DETERMINATIONS WITH RESPECT TO CONFIDENTIAL

15 INFORMATION AND TRADE SECRETS FOR ICC. IN HIS DEPOSITION, HE

16 SAID, I'M THE GUY THAT IT STOPS WITH, I CAN MAKE THOSE

17 DETERMINATIONS. WE WOULD HAVE KNOWN ABOUT A CONFIDENTIAL

18 DISCLOSURE AGREEMENT.

19 THE COURT: WELL, HE SAYS HE HASN'T SEEN THIS

20 DOCUMENT.

21 MR. RENARD: AND, YOUR HONOR, THAT'S NOT

22 IMPEACHMENT TO SAY -- IT IMPEACHES HIS ABILITY TO LOOK FOR A

23 DOCUMENT? THIS APPARENTLY CAME FROM RAYTHEON'S FILES. IT'S

24 DATED DECEMBER 9, 1998. IT'S BETWEEN RAYTHEON AND ICC AND --

25 OR ICC -- YOUR HONOR, THIS ISN'T IMPEACHMENT. AND IF THEY --

1 THEY OBVIOUSLY HAVE BEEN HOLDING THIS DOCUMENT. FOR SOME TIME
2 THEY WOULD HAVE KNOWN ABOUT IT, AND THEY COULD HAVE PRODUCED IT
3 TO US, BUT IT'S NOT IMPEACHMENT.

4 THE COURT: IT DOESN'T SOUND LIKE IMPEACHMENT.
5 HE HASN'T SAID ANYTHING UNTRUE. HE HASN'T SAID ANYTHING UNTRUE
6 IF HE SAYS, I HAVE NOT SEEN THIS BEFORE.

7 MR. MCDOWELL: OKAY, YOUR HONOR.

8 THE COURT: ALL RIGHT. I'LL SUSTAIN THE
9 OBJECTION.

10 ALL RIGHT, MR. WESTBERG, BRING THE JURY BACK IN,
11 PLEASE.

12 (JURY PRESENT)

13 THE COURT: PLEASE BE SEATED.

14 LADIES AND GENTLEMEN, IT'S WARM IN HERE. I'M
15 TRYING TO COOL IT OFF A LITTLE BIT.

16 MR. MCDOWELL.

17 Q. (BY MR. MCDOWELL) MR. KNAUTH, WHEN ICC DOES WORK FOR
18 CUSTOMERS, DOES IT NOT DO THAT WORK PURSUANT, GENERALLY
19 SPEAKING, TO CONFIDENTIAL DISCLOSURE AGREEMENTS?

20 A. ICC NO LONGER EXISTS.

21 Q. AT THE TIME OF ICC'S EXISTENCE, WHEN IT DID WORK FOR
22 ITS CUSTOMERS, DIDN'T IT NORMALLY DO IT PURSUANT TO
23 CONFIDENTIAL DISCLOSURE AGREEMENTS?

24 A. PROBABLY.

25 Q. AND WHEN ICC WAS DOING WORK FOR AMBER AND SBRC,

1 WOULDNT IT HAVE BEEN NORMAL FOR ICC TO DO THAT WORK UNDER A
2 CONFIDENTIAL DISCLOSURE AGREEMENT?

3 A. IT PROBABLY WOULD HAVE BEEN NORMAL AT THE TIME. I
4 DIDNT FIND ANY WHEN I LOOKED.

5 Q. DID YOU MAKE A SEARCH FOR A CONFIDENTIAL DISCLOSURE
6 AGREEMENT BETWEEN RAYTHEON OR AMBER AND ICC?

7 A. YES, I DID.

8 Q. AND -- AND YOU SEARCHED ICC'S FILES AND YOU DIDNT
9 FIND ONE?

10 A. THEY'RE TWO CORPORATIONS. THE FILES ARE NOT THE
11 SAME. SOME ARE -- SOME ARE OVERLAPPING BUT --

12 Q. SO YOU DIDNT SEARCH ICC'S FILES LOOKING FOR THE
13 CONFIDENTIAL DISCLOSURE AGREEMENT BETWEEN AMBER/RAYTHEON AND
14 ICC?

15 A. ICC CEASED TO EXIST THREE YEARS BEFORE I TOOK ON THIS
16 WORK.

17 Q. I KNOW, BUT A LOT OF YOUR TESTIMONY TODAY HAS BEEN
18 ABOUT ICC, TRUE?

19 A. YES.

20 Q. OKAY. AND DO YOU HAVE ANY REASON THAT YOU CAN
21 TESTIFY TODAY THAT THERE WAS NOT A CONFIDENTIAL DISCLOSURE
22 AGREEMENT BETWEEN AMBER/RAYTHEON AND ICC?

23 A. NO.

24 Q. IN FACT, YOU EXPECT THAT THERE WAS ONE, RIGHT?

25 A. I -- I WOULD EXPECT THAT THERE WAS ONE.

1 Q. RIGHT. SO, ICC AND -- BETWEEN ICC AND
2 AMBER/RAYTHEON, YOU HAVE NO REASON TO BELIEVE THAT THERE WASN'T
3 A CONFIDENTIAL DISCLOSURE AGREEMENT, TRUE?

4 A. YEAH, EXCEPT THAT I COULDN'T FIND THEM WHEN I WAS
5 LOOKING FOR THEM.

6 Q. YOU JUST COULDN'T FIND THEM AMONG THE FILES?

7 A. YES.

8 Q. YOU DON'T BELIEVE ONE DIDN'T EXIST, RIGHT?

9 A. I DON'T HAVE ANY REASON TO BELIEVE IT DIDN'T EXIST.

10 Q. RIGHT, BECAUSE THAT'S HOW THE WORK'S DONE, TRUE?

11 A. OFTENTIMES.

12 Q. I WANT TO BACK UP A LITTLE BIT AND -- AND WORK
13 THROUGH A FRAMEWORK, BECAUSE I GOT A LITTLE CONFUSED GOING
14 THROUGH THE TRADE SECRETS IN YOUR TESTIMONY. I WANT TO MAKE
15 SURE THAT WE'RE CLEAR.

16 YOU'RE NOT OFFERING THE JURY ANY OPINION AT ALL
17 ABOUT TRADE SECRETS 16, 17, 18, 20, 21, 22, 23, 24, OR 25,
18 TRUE?

19 A. YEAH, I CAN'T QUITE SEE THAT FROM HERE, BUT I THINK
20 THAT THOSE ARE ALL THE NUMBERS THAT ARE NOT INCLUDED IN MY
21 REPORT.

22 Q. AND THEN I HEARD SOME OF YOUR OPINIONS WITH RESPECT
23 TO THINGS BEING GENERALLY KNOWN TO ICC; DO YOU REMEMBER SOME
24 OPINIONS ABOUT THINGS BEING GENERALLY KNOWN TO ICC?

25 A. NO.

1 Q. OKAY. DO YOU RECALL -- DO YOU RECALL GIVING SOME
2 OPINIONS ABOUT CERTAIN TRADE SECRETS BEING OBVIOUS?

3 A. YES.

4 Q. YOU -- DO YOU REMEMBER GIVING SOME OPINIONS ABOUT
5 CERTAIN TRADE SECRETS BEING LOGICAL?

6 A. YES.

7 Q. OKAY. I WANT TO MAKE SURE THAT I UNDERSTAND, YOU ARE
8 NOT OFFERING ANY OPINION TO THE JURY THAT TRADE SECRET NUMBER
9 1, THE USE OF SILVER GOLD ALLOY EXISTED IN THE PUBLIC DOMAIN AT
10 THE TIME OF THE ALLEGED MISAPPROPRIATION, ARE YOU?

11 A. NO.

12 Q. AND -- AND DESPITE YOUR PRIOR TESTIMONY, YOU ARE NOT
13 OFFERING ANY OPINION TO THE JURY THAT TRADE SECRET NUMBER 2,
14 THE USE OF SILICON ADHESIVE FOR FPA MOUNTING, EXISTED IN THE
15 PUBLIC DOMAIN AT THE TIME OF THE MISAPPROPRIATION, ARE YOU?

16 A. NO.

17 Q. AND -- AND LIKEWISE, YOU ARE NOT OFFERING THE JURY
18 ANY OPINION THAT TRADE SECRET NUMBER 3, BACKSIDE AND EDGE
19 TREATMENT, EXISTED IN THE PUBLIC DOMAIN AT THE TIME OF THE
20 ALLEGED MISAPPROPRIATION?

21 MR. RENARD: YOUR HONOR, I'M GOING TO OBJECT TO
22 THIS LINE OF QUESTIONS GIVEN THE COURT'S PRIOR ORDER WITH
23 RESPECT TO THIS MATTER.

24 THE COURT: NOW, HE'S JUST ASKING HIM IF HE --
25 IF HE'S OFFERING ANY OPINION ABOUT WHETHER OR NOT -- OH, ARE

1 YOU TALKING ABOUT THE ENTIRE TRADE SECRET IS IN THE PUBLIC
2 DOMAIN?

3 MR. RENARD: YES, YOUR HONOR, IT HAS TO DO WITH
4 THE IN LIMINE ORDER, AND I -- AND I DON'T BELIEVE THIS
5 PARTICULAR LINE OF QUESTIONING IS APPROPRIATE IN LIGHT OF THAT.

6 THE COURT: THE ORDER WE DISCUSSED EARLIER THIS
7 MORNING?

8 MR. RENARD: YES, YOUR HONOR.

9 THE COURT: WELL, THE QUESTION IS -- IS SIMPLY
10 WHETHER OR NOT INFORMATION ABOUT ALL THE COMPONENTS OF THESE
11 THREE TRADE SECRETS IS IN THE PUBLIC DOMAIN.

12 MR. RENARD: YOUR HONOR, I SUPPOSE WHAT I SHOULD
13 BE SAYING IS I BELIEVE COUNSEL IS OPENING THE DOOR WITH RESPECT
14 TO THIS LINE OF QUESTIONING, AND -- AND I -- THAT'S ALL I MEAN
15 BY -- BY THAT, AND I'M GOING TO MAKE SURE WE ALL HAVE THE
16 UNDERSTANDING IN THAT REGARD.

17 MR. MCDOWELL: THAT IS ABSOLUTELY WRONG. THE --
18 THE QUESTION I'M ASKING --

19 THE COURT: WAIT A MINUTE. WAIT A MINUTE. I
20 DON'T WANT TO HEAR ARGUMENTS IN FRONT OF THE JURY.

21 MR. MCDOWELL: WELL, THAT'S WHAT WE WERE
22 HEARING. I JUST NEEDED TO RESPOND.

23 THE COURT: WELL, YOU KNOW, I DON'T FIND
24 ANYTHING WRONG WITH THE QUESTION AS TO WHETHER OR NOT ALL OF
25 THE COMPONENTS OF EACH TRADE SECRET HAVE BEEN REVEALED IN THE

1 PUBLIC DOMAIN.

2 MR. MCDOWELL: THAT'S WHAT WE'RE ASKING, YOUR
3 HONOR.

4 THE COURT: AND THE WITNESS IS ANSWERING THOSE
5 QUESTIONS. AS FAR AS WHETHER THAT OPENS THE DOOR TO ANYTHING
6 ELSE --

7 MR. RENARD: I SUPPOSE, YOUR HONOR, MY ONLY
8 POINT IS -- IS I THINK THE WITNESS SHOULD BE FREE TO, THEN,
9 OFFER AN OPINION IN THAT REGARD, IF THAT'S WHAT'S BEING ASKED
10 BY COUNSEL.

11 THE COURT: OFFER OPINION IN THAT REGARD ON
12 OTHER TRADE SECRETS?

13 MR. RENARD: NO, YOUR HONOR, ON THESE QUESTIONS,
14 BECAUSE IT'S MY UNDERSTANDING THAT THESE QUESTIONS WERE THE
15 SUBJECT OF THE COURT'S PRIOR ORDER. NOW THEY'RE BEING ASKED TO
16 THE WITNESS, AND IT SEEMS TO ME IF THE WITNESS HAS AN ANSWER IN
17 THAT REGARD, IRRESPECTIVE OF -- OF THE LIMINE ORDER, HE OUGHT
18 TO BE ABLE TO DELIVER THAT AT THIS TIME.

19 MR. MCDOWELL: AND -- AND YOUR HONOR, I CAN'T --
20 I CAN'T VERY WELL RESPOND TO MR. RENARD'S ARGUMENT --

21 MR. RENARD: IT'S NOT AN ARGUMENT.

22 MR. MCDOWELL: THERE IS AN ORDER, AND YOUR
23 ORDER'S VERY SPECIFIC.

24 THE COURT: AND YOU BOTH READ IT DIFFERENTLY.
25 OKAY.

1 LADIES AND GENTLEMEN, YOU'RE GOING TO HAVE TO GO
2 BACK TO THE JURY ROOM.

3 COURT SECURITY OFFICER: ALL RISE.

4 (JURY NOT PRESENT)

5 THE COURT: ALL RIGHT. BE SEATED, PLEASE.

6 OKAY. WHAT DO YOU CONTEND THIS OPENS THE DOOR
7 TO, MR. RENARD?

8 MR. RENARD: YOUR HONOR, THE COURT SAID THAT
9 MR. KNAUTH SHOULD BE PROHIBITED FROM OFFERING OPINIONS,
10 NOTWITHSTANDING THE FACT THAT HE -- HE DID OFFER OPINIONS ON
11 THESE SUBJECTS IN HIS REPORT. NOW, COUNSEL, INSTEAD OF
12 AVOIDING THE SUBJECT ALTOGETHER, WHICH I THOUGHT WOULD HAVE
13 BEEN THE WAY TO OPERATE, ARE NOW ASKING THOSE VERY QUESTIONS.
14 AND IT SEEMS TO ME IF MR. KNAUTH BELIEVES THAT THEY'RE IN THE
15 PUBLIC DOMAIN, HE OUGHT TO BE ABLE TO ANSWER AS SUCH AND NOT
16 FEEL THAT HE'S BEING RESTRICTED BY THE LIMINE ORDER. THAT'S
17 WHAT I MEAN BY OPENING THE DOOR.

18 HE'S ASKING, DO YOU HAVE AN OPINION AS TO
19 WHETHER OR NOT THERE IS -- IN FACT, ONE OF HIS QUESTIONS WAS,
20 NOTWITHSTANDING YOUR PRIOR TESTIMONY, DO YOU HAVE AN OPINION AS
21 TO WHETHER OR NOT THIS IS A --

22 MR. MCDOWELL: THAT'S NOT MY QUESTION, YOUR
23 HONOR. IT'S VERY -- IF YOU GO TO THE LAST PAGE -- AND IT'S NOT
24 A LIMINE ORDER. IT'S A DAUBERT ORDER. AND IF YOU GO TO THE
25 LAST PAGE OF THE ORDER, PART 4, MR. KNAUTH IS PROHIBITED FROM

1 CONCLUDING --

2 THE COURT: WAIT A MINUTE. WHAT ORDER ARE
3 YOU --

4 MR. MCDOWELL: IT'S THE KNAUTH ORDER,
5 DOCUMENT 755.

6 THE COURT: OKAY. PART 4?

7 MR. MCDOWELL: THE -- THE VERY LAST PAGE.

8 THE COURT: I HAVE A PART 3.

9 MR. MCDOWELL: UNDER YOUR CONCLUSION, THE LAST
10 SENTENCE. THE COURT FINDS THAT KNAUTH IS -- AND THERE ARE FOUR
11 THINGS.

12 THE COURT: YES.

13 MR. MCDOWELL: THE FOURTH THING IS, PROHIBITED
14 FROM CONCLUDING THAT TRADE SECRETS -- AND THEY'RE LISTED --
15 EXISTED IN THE PUBLIC DOMAIN AT THE TIME OF THE ALLEGED
16 MISAPPROPRIATION.

17 THE COURT: YES, AND WE DISCUSSED THAT, AND THAT
18 MEANS THAT THE -- THE REVELATION OF THE ENTIRE TRADE SECRET
19 EXISTED IN THE PUBLIC DOMAIN.

20 MR. MCDOWELL: CORRECT. AND THAT'S WHY I ASKED
21 THE QUESTION, IF YOU LOOK AT THE QUESTION I ASKED, IT TRACKS
22 YOUR HONOR'S LANGUAGE.

23 MR. RENARD: AND, YOUR HONOR, THAT'S THE POINT.
24 WE WERE PROHIBITED IN DIRECT EXAMINATION FROM LISTING OPINIONS
25 FROM MR. KNAUTH THAT THIS WAS IN THE PUBLIC DOMAIN. NOW

1 COUNSEL IS TURNING AROUND AND ASKING, ARE THESE IN THE PUBLIC
2 DOMAIN? WELL, THIS GENTLEMAN DID HAVE OPINIONS ON THAT
3 SUBJECT, AND THAT'S WHAT I MEAN BY OPENING THE DOOR. WE'RE
4 WELL AWARE OF WHAT THE COURT ORDERED, BUT YOU CAN'T SAY -- YOU
5 CAN'T GET AN ORDER FROM THE COURT SAYING DON'T GO INTO THIS AND
6 GIVE THESE OPINIONS AND THEN STAND IN FRONT OF THE JURY AND
7 SAY, DO YOU HAVE ANY OPINIONS. WELL, HE DID. HE'S BEEN
8 PROHIBITED, THOUGH, FROM ARTICULATING THOSE IN DIRECT
9 EXAMINATION AND NOW HE'S ASKING -- HE'S ASKING IN HIS
10 CROSS-EXAMINATION, WELL, DO YOU HAVE ANY OPINIONS, KNOWING FULL
11 WELL THAT MR. KNAUTH HAS BEEN PROHIBITED BY THE COURT FROM
12 GIVING THOSE OPINIONS. THAT'S NOT FAIR. HE OUGHT TO EITHER
13 AVOID THE SUBJECT ALTOGETHER OR ASK THE QUESTION AND GET AN
14 ANSWER.

15 THE COURT: WHAT I SAID WAS THAT MR. KNAUTH HAD
16 DOCUMENTATION IN HIS REPORT THAT DID NOT DEMONSTRATE THAT
17 CERTAIN TRADE SECRETS, 12 OF THEM, WERE ENTIRELY REVEALED IN
18 THE PUBLIC DOMAIN. NOW, I SAID EARLIER IN MY ORDER, THAT IT'S
19 PERMISSIBLE FOR HIM TO OPINE THAT CERTAIN INFORMATION IS IN THE
20 PUBLIC DOMAIN. AND I THINK YOU WENT THROUGH THAT, MR. RENARD.

21 MR. MCDOWELL: HE DID, YOUR HONOR.

22 MR. RENARD: I DID, YOUR HONOR, BUT THE PROBLEM
23 HERE IS THAT --

24 THE COURT: ASPECTS OF THOSE TRADE SECRETS.

25 MR. RENARD: -- I WOULD HAVE THOUGHT THAT WHAT

1 THAT DOES IS PUT THAT SUBJECT OFF LIMITS IN THIS TRIAL. NOW,
2 COUNSEL IS TURNING AROUND AND SAYING, WELL, DO YOU HAVE ANY
3 OPINIONS --

4 MR. MCDOWELL: THIS IS EXACTLY THE OPPOSITE.

5 MR. RENARD: -- DO YOU HAVE ANY OPINIONS KNOWING
6 THAT MR. KNAUTH HAS BEEN BARRED FROM OFFERING ANY OPINIONS.
7 THAT'S NOT FAIR. IF MR. KNAUTH HAS AN OPINION BASED UPON, FOR
8 INSTANCE, EVIDENCE HE'S HEARD IN THIS TRIAL, HE OUGHT TO BE
9 ABLE TO DELIVER THAT OPINION.

10 THE COURT: I SEE WHAT YOU'RE SAYING. WHAT
11 YOU'RE SAYING IS I'M THE ONE WHO PROHIBITED HIM FROM OFFERING
12 THE OPINION THAT THE ENTIRE TRADE SECRET HAS BEEN REVEALED.

13 MR. RENARD: YES, YOUR HONOR, I UNDERSTAND THAT,
14 BUT THEN TO TURN AROUND AND SAY, BECAUSE OF THE -- MR. KNAUTH'S
15 PRECLUDED FROM TALKING ABOUT IT SAY, WELL, YOU DON'T HAVE ANY
16 OPINIONS, DO YOU, THAT'S NOT FAIR.

17 MR. MCDOWELL: HERE'S THE PROBLEM, YOUR HONOR.
18 HE'S PROHIBITED FROM GIVING THE TESTIMONY WITH RESPECT TO THE
19 ENTIRE TRADE SECRET. WHAT MR. RENARD INSISTED ON THIS MORNING
20 AND WHAT WE HAD THIS ARGUMENT ABOUT WAS WHETHER OR NOT HE COULD
21 OFFER A PIECE OF PUBLIC DOMAIN EVIDENCE HERE AND A PIECE AND
22 OPINION THERE AND -- AND THIS PIECE IS IN THE PUBLIC DOMAIN,
23 AND THEN WRAP IT ALL UP BY ASKING THE WITNESS, BASED UPON YOUR
24 WORK AND ALL THE DOCUMENTS THAT YOU REVIEWED, IS -- IS THIS
25 GENERALLY KNOWN.

1 MR. RENARD: WELL, GENERALLY KNOWN IS DIFFERENT
2 THAN PUBLIC DOMAIN.

3 MR. MCDOWELL: MR. RENARD, MAY I FINISH, PLEASE?

4 MR. RENARD: SURE.

5 THE COURT: GO AHEAD.

6 MR. MCDOWELL: IT -- BY DOING -- ALL I'VE ASKED
7 THE JURY IS IF -- I DIDN'T ASK HIM IF HE HAD AN OPINION. I
8 DIDN'T ASK HIM IF HE THOUGHT ABOUT HAVING AN OPINION. I DIDN'T
9 ASK HIM WHAT HE THOUGHT. I ASKED HIM IF HE WAS OFFERING THE
10 OPINION THAT THE TRADE SECRET WAS IN THE PUBLIC DOMAIN AT THE
11 TIME OF THE MISAPPROPRIATION. THAT'S ALL I'VE ASKED HIM. IT'S
12 TO BE VERY CLEAR ABOUT WHAT OPINIONS THE JURY IS HEARING FROM
13 THIS WITNESS.

14 I'M CONCERNED THAT BASED UPON MR. RENARD ASKING
15 HIM ABOUT A PIECE HERE AND A PIECE THERE AND A PIECE HERE AND
16 THEN ASKING HIM IF IT'S GENERALLY KNOWN, I'M CONCERNED THAT
17 THAT MISLEADS THE JURY. ALL I'M DOING IS FOLLOWING YOUR
18 HONOR'S LANGUAGE AND -- AND BEING VERY SPECIFIC THAT HE'S NOT
19 OFFERING THAT OPINION. I DON'T WANT THE JURY TO THINK HE'S
20 OFFERING AN OPINION THAT HE'S NOT OFFERING. THAT'S ALL I --
21 THAT'S THE ONLY QUESTION I'VE ASKED.

22 THE COURT: AND HE'S NOT OFFERING THAT OPINION
23 BECAUSE I SAID THAT HIS DOCUMENTS DIDN'T SUPPORT THAT OPINION.

24 MR. MCDOWELL: THAT'S RIGHT.

25 THE COURT: THAT'S THE ONLY REASON HE'S NOT

1 OFFERING THE OPINION.

2 MR. MCDOWELL: AND I AM NOT GOING BACK AND
3 QUESTIONING HIS DOCUMENTS.

4 THE COURT: AND HE MAY DISAGREE WITH ME ON THAT.

5 MR. RENARD: THAT WAS MY POINT, YOUR HONOR. IF
6 HE HAS AN ANSWER TO THE QUESTION, I WANT MR. KNAUTH TO KNOW
7 THAT HE'S FREE TO GIVE AN ANSWER NOTWITHSTANDING THE ORDER.
8 AND I -- I PUT THAT OUT THERE AS A PROPOSITION, NOT AS WHAT I
9 THINK IT OUGHT TO BE. BUT THAT'S -- THAT'S THE UNFAIRNESS. IF
10 HE NOW HAS AN OPINION IN RESPONSE TO COUNSEL'S QUESTION, HE
11 OUGHT TO HAVE THE FREEDOM TO DELIVER IT BECAUSE THE ORDER
12 REALLY JUST BOXES HIM IN AND SAYS, WELL, I MAY HAVE AN OPINION,
13 BUT I'M BARRED FROM SHARING IT.

14 THE COURT: I UNDERSTAND.

15 MR. MCDOWELL: THAT'S BECAUSE IT'S AN INVALID
16 OPINION AND IT'S NOT SUPPORTED.

17 THE COURT: WELL, BUT MR. RENARD WAS CAREFUL NOT
18 TO ASK MR. KNAUTH TO EXPRESS THE OPINION THAT THESE TRADE
19 SECRETS HAVE BEEN ENTIRELY REVEALED IN THE PUBLIC DOMAIN. NOW,
20 YOU'RE ASKING HIM IF IT'S TRUE THAT THEY HAVE NOT BEEN ENTIRELY
21 REVEALED IN THE PUBLIC DOMAIN. THAT'S ALL BASED ON MY RULING,
22 THOUGH.

23 MR. ROSE: YOUR HONOR, I'M FAIRLY CONCERNED
24 ABOUT THIS. IN ESSENCE, WHAT COUNSEL HAS DONE IS TRICKED THE
25 PLAINTIFFS BY SUGGESTING THAT HE CAN TALK ABOUT ALL THE

1 DIFFERENT PIECES BUT WE ARE NOT -- WE'RE HANDCUFFED IN
2 CROSS-EXAMINATION. WE CAN'T GET HIM TO SAY THOSE PIECES HE
3 TALKED ABOUT ARE NOT THE ENTIRETY OF IT BECAUSE IN FACT
4 YOU'RE -- HE DID NOT FOLLOW THE RULES UNDER DAUBERT.

5 SO HE CANNOT NOW SNEAK BACK IN THE BACK DOOR AND
6 OFFER AN OPINION WHICH YOUR HONOR HAS ALREADY SAID IS NOT
7 CONFIDENT TO BE OFFERED IN THIS COURTROOM, AND YOU CAN'T OPEN
8 THE DOOR AS HE DID ON DIRECT AND SAY ALL THESE BITS AND PIECES
9 AND THEN SAY WE ARE NOT ABLE TO CLEAR IT UP IN CROSS AND SAY
10 THE SIMPLE TRUTH IS, YOU CANNOT OFFER THE OPINION THAT THIS IS
11 IN THE PUBLIC DOMAIN BECAUSE THE COURT HAS FOUND THAT HIS
12 OPINION IS NOT APPROPRIATE FOR THE JURY TO HEAR.

13 THE COURT: DO YOU THINK THE FAIR THING WOULD BE
14 MAYBE FOR ME TO INSTRUCT THE JURY THAT I DIDN'T ALLOW HIM TO
15 EXPRESS ANY OPINIONS ABOUT WHETHER OR NOT THESE TRADE SECRETS
16 ARE ENTIRELY REVEALED IN THE PUBLIC DOMAIN? OTHERWISE --

17 MR. MCDOWELL: I'M FINE WITH THAT, YOUR HONOR.
18 IF YOU WANT TO -- IF YOU WANT TO INSTRUCT THE JURY WITH RESPECT
19 TO EACH ONE OF THESE ENUMERATED TRADE SECRETS HE'S PROHIBITED
20 FROM CONCLUDING, I'M FINE WITH THAT. I'M FINE WITH THE
21 LANGUAGE THAT'S IN YOUR HONOR'S ORDER.

22 MR. RENARD: YOUR HONOR, I DON'T THINK IT'S
23 APPROPRIATE -- WITH ALL DUE RESPECT, THE -- THAT THEY BE --
24 WHAT THE PROBLEM IS, THEY COULD AVOID ASKING THE QUESTION AND
25 THEN ARGUE TO THE JURY, YOU DID NOT HEAR ANY OPINION FROM

1 MR. KNAUTH OF THE ENTIRETY, WHICH IS I THOUGHT THE WAY YOU
2 WOULD HANDLE THE LIMINE ORDER, BUT INSTEAD, TO GET A LIMINE
3 ORDER AND THEN STAND UP AND ACT AS IF THE WITNESS DOESN'T HAVE
4 AN OPINION WHEN, IN FACT, HE HAS RENDERED AN OPINION BECAUSE
5 THE COURT HAS PROHIBITED FROM DOING SO, YOU CAN'T HAVE IT BOTH
6 WAYS, AND THAT'S WHAT I MEAN BY OPENING THE DOOR.

7 THE WAY TO HANDLE IT WAS TO AVOID IT LIKE I DID,
8 AVOID IT IN CROSS-EXAMINATION, AND THEN ARGUE WHAT YOU WANT TO
9 THAT MR. KNAUTH DID NOT HAVE AN OPINION ON THOSE TRADE SECRETS,
10 THAT THEY WERE DISCLOSED.

11 THE COURT: MR. CUNNINGHAM, I DON'T WANT TO HEAR
12 FROM MULTIPLE LAWYERS ON THIS.

13 MR. MCDOWELL: YOUR HONOR, THE -- THE PROBLEM
14 IS, MR. RENARD ALREADY CHOSE -- AND THAT WAS WHAT WE ARGUED
15 ABOUT THIS MORNING. HE ALREADY CHOSE, LOOK, I'M GOING TO
16 ARGUE -- I'M GOING TO PRESENT THIS PIECE OF EVIDENCE AND THAT
17 PIECE OF EVIDENCE, BUT NOW PLAINTIFF, YOU CAN'T SAY THAT HE
18 DOESN'T -- HE DOESN'T HAVE -- HE'S NOT OFFERING THE JURY THAT
19 OPINION. THAT'S THE PROBLEM NOW. IF -- IF MR. RENARD HAD GONE
20 THE WAY WE REQUESTED THIS MORNING AND AVOIDED THE PUBLIC DOMAIN
21 DOCUMENTS AND AVOIDED DRAWING THE CONCLUSION AT THE END OF EACH
22 ONE OF THESE SUBJECTS, THEN WE WOULDN'T BE HERE AND I WOULDN'T
23 HAVE TO ASK THIS QUESTION TO CLEAR UP THAT TESTIMONY.

24 AND, YOU KNOW, ANY OPINION THAT MR. KNAUTH
25 WOULD -- WOULD OFFER NOW WHICH WOULD CONCLUDE THAT THESE WERE

1 IN THE PUBLIC DOMAIN BASED ON HIS REPORT AND HIS DISCLOSURE AND
2 HIS DEPOSITION AND YOUR HONOR'S DAUBERT ORDER WOULD BE
3 INCOMPETENT. HE CAN'T OFFER THAT OPINION. HE DOESN'T HAVE ONE
4 BECAUSE IT'S AN INCOMPETENT OPINION.

5 MR. RENARD: YOU -- YOUR HONOR, MR. KNAUTH HAS
6 HEARD A LOT OF TESTIMONY SITTING HERE DURING THIS TRIAL. YOUR
7 HONOR'S OPINION WAS BASED UPON WHAT DOCUMENTS WERE REVEALED IN
8 HIS REPORT AND MADE THAT ORDER. ALL THAT I'M SAYING IS TO
9 SUGGEST FOR A MINUTE THAT I OPENED SOME KIND OF A DOOR, I
10 THINK, IS INCORRECT. WHAT WE HAVE HERE WAS AN ORDER THAT WAS
11 OBTAINED, WE COMPLIED WITH THE ORDER, AND NOW TO -- TO OPEN THE
12 DOOR AND SAY, HA, HA, HA, I KNOW YOU CAN'T TESTIFY ABOUT THIS,
13 SO I IN FRONT OF THE JURY AM GOING TO SAY YOU DON'T HAVE ANY
14 OPINIONS, DO YOU, THAT'S JUST NOT FAIR. IF THEY WANT TO ASK
15 THAT QUESTION, THEY OUGHT TO GET A TRUTHFUL ANSWER FROM
16 MR. KNAUTH.

17 THE COURT: MR. MCDOWELL, CAN YOU NOT ARGUE
18 LATER THAT YOU DIDN'T HEAR FROM MR. KNAUTH THAT -- ANY OPINION
19 THAT THESE TRADE SECRETS HAVE BEEN REVEALED IN THE PUBLIC
20 DOMAIN IN THEIR ENTIRETY?

21 MR. MCDOWELL: YOUR HONOR, THAT'S NOT
22 SUFFICIENT. IT'S ARGUING THE NEGATIVE AFTER MR. RENARD GOT TO
23 STAND UP AND ASK HIM PIECES OF IT AND THEN DRAW THE CONCLUSION
24 THAT IT'S GENERALLY KNOWN, AND I CAN'T -- I CAN'T MAKE SURE --
25 I CAN'T CONFIRM FOR THE JURY THAT HE DOES NOT HAVE AN OPINION

1 THAT IT WAS PUBLICLY DISCLOSED IN THE PUBLIC DOMAIN AT THE TIME
2 OF THE MISAPPROPRIATION. THAT -- I THINK THAT IS UNFAIR.

3 MR. RENARD COULD HAVE AVOIDED THOSE QUESTIONS OR
4 AVOIDED USING PUBLIC DOCUMENTS. HE CHOSE TO USE THEM. THE
5 JURY'S LEFT WITH A MISAPPREHENSION. AND THIS QUESTION JUST
6 GOES TO THE HEART OF THE MATTER. THERE'S NO FOLLOW-UP. THIS
7 QUESTION GOES TO THE HEART OF THE MATTER.

8 MR. RENARD: AND HE SHOULD BE ALLOWED TO ANSWER
9 THE QUESTION TRUTHFULLY IF THEY'RE GOING TO ASK THE QUESTION.

10 MR. MCDOWELL: HE DOESN'T HAVE ANYTHING TRUTHFUL
11 TO SAY --

12 MR. RENARD: PLEASE, COUNSEL, HE OUGHT TO BE
13 ABLE -- YOU CAN ARGUE THAT, BUT IF YOU'RE GOING TO ASK THE
14 QUESTION, THE WITNESS OUGHT TO BE ABLE TO GIVE A RESPONSE AND
15 THEN YOU CAN FOLLOW UP WITH IT HOWEVER YOU WANT, BUT --

16 THE COURT: WELL, I MADE THIS RULING BASED UPON
17 WHAT WAS IN HIS REPORT, WHICH IS ALL I HAVE TO GO ON BEFORE WE
18 START THE TRIAL. AND I'M GOING TO STICK WITH MY RULING. SO I
19 UNDERSTAND YOU WANT TO CLEAR THE AIR, MR. MCDOWELL.

20 MR. MCDOWELL: YES, YOUR HONOR.

21 THE COURT: YOU WANT THEN, MR. RENARD, TO GO
22 BACK INTO THIS AND NOTWITHSTANDING MY RULING TO ASK MR. KNAUTH
23 TO GO AHEAD AND GIVE HIS OPINION THAT THESE TRADE SECRETS HAVE
24 BEEN ENTIRELY REVEALED IN THE PUBLIC DOMAIN, AND I DON'T EVEN
25 KNOW IF THAT'S HIS OPINION.

1 MR. KNAUTH, WHAT IS YOUR OPINION ON WHETHER OR
2 NOT TRADE SECRETS 1 THROUGH 7 -- IF YOU NEED TO READ THEM OVER
3 THERE -- AND 9, 13, AND 14, 27, AND 30 ARE IN THE PUBLIC
4 DOMAIN, HAVE BEEN ENTIRELY REVEALED, ALL COMPONENTS OF THEM?

5 THE WITNESS: AND I'M SORRY, I STILL CAN'T SEE
6 IT.

7 THE COURT: CAN YOU WALK OVER THERE AND TAKE A
8 LOOK?

9 THE WITNESS: YEAH.

10 THE COURT: THANK YOU, MR. CUNNINGHAM.

11 THE WITNESS: WHICH NUMBERS?

12 THE COURT: 1 THROUGH 7. START WITH THOSE.

13 THE WITNESS: YEAH.

14 THE COURT: IN OTHER WORDS, ARE THERE -- IS
15 THERE INFORMATION IN THE PUBLIC DOMAIN, WHETHER IT'S PATENTS OR
16 LEARNED PAPERS OR SYMPOSIA MATERIALS OR BOOKS OR WHATEVER THAT
17 COMPLETELY REVEALED THESE SEVEN TRADE SECRETS AND ALL ASPECTS
18 OF THEM AS UTILIZED BY RAYTHEON?

19 THE WITNESS: YOUR HONOR, THE PROBLEM THAT I
20 HAVE WITH ANSWERING THAT QUESTION IS THAT THE -- THE TOTALITY
21 OF THE TRADE SECRET SEEMS TO BE -- SEEMS TO HAVE EXPANDED EVEN
22 SINCE THE TRIAL BEGAN, SO ALL OF THIS, YOU KNOW, KNOWLEDGE AND
23 THINGS LIKE THIS, I DON'T KNOW HOW I COULD POSSIBLY FIND THINGS
24 THAT HAVEN'T BEEN WELL DEFINED OR DOCUMENTED IN THE PUBLIC
25 DOMAIN. SO THAT'S THE PROBLEM THAT I HAVE WITH ANSWERING THE

1 QUESTION.

2 THE COURT: WELL, I -- I'M NOT INCLUDING WHAT'S
3 BEEN TESTIFIED TO HERE AT THIS TRIAL, BUT BEFORE THE TRIAL, DO
4 YOU HAVE ANY OPINION ABOUT WHETHER THOSE FIRST SEVEN TRADE
5 SECRETS CAN BE FOUND SOMEWHERE IN THE PUBLIC DOMAIN?

6 THE WITNESS: YEAH, I THINK THAT, FOR EXAMPLE,
7 NUMBER 3, I THINK THAT -- I'VE SEEN THE SORT OF THING AT TRADE
8 SHOWS AS AN EXAMPLE.

9 THE COURT: OKAY.

10 THE WITNESS: NUMBER 7 IS A -- WELL, IN ITS
11 TOTALITY, AT LEAST TWO-THIRDS OF IT, BUT --

12 THE COURT: WELL, I'M TALKING ABOUT THE ENTIRE
13 SECRET, NOT --

14 THE WITNESS: YES, SIR.

15 THE COURT: NOT A BIT HERE AND A BIT THERE, AND,
16 YOU KNOW, YOU'D HAVE TO BE A DETECTIVE TO PUT IT ALL TOGETHER,
17 BUT RATHER THE ENTIRE SECRET.

18 THE WITNESS: YEAH, I WOULD SAY NUMBER 4,
19 CERTAINLY.

20 THE COURT: OKAY. WELL, I UNDERSTAND THE
21 PLAINTIFF WANTS TO POINT OUT -- I THINK -- I WOULD SUGGEST,
22 MR. RENARD, THAT THE COURT INFORM THE JURY THAT BASED ON A
23 PRETRIAL RULING, THE COURT IS NOT PERMITTING MR. KNAUTH TO
24 OFFER AN OPINION ON WHETHER OR NOT THESE 12 TRADE SECRETS HAVE
25 BEEN ENTIRELY REVEALED IN THEIR ENTIRETY IN ONE PLACE IN THE

1 PUBLIC DOMAIN.

2 MR. RENARD: YOUR HONOR, WHAT -- WHAT WE DON'T
3 LIKE ABOUT THAT IS I THINK THAT REFLECTS NEGATIVELY UPON
4 MR. KNAUTH IN FRONT OF THE JURY. AND -- AND I WOULD PREFER
5 THERE NOT BE ANY MENTION OF ORDERS.

6 THE COURT: I DON'T HAVE TO SAY WHY.

7 MR. RENARD: WELL, EVEN SO, YOUR HONOR, IT --
8 I'M NOT SURE WE NEED TO -- TO HAVE THAT. IT -- IT SEEMS
9 LIKE -- IF COUNSEL WANTS TO ASK THE QUESTION, HE SHOULD GET AN
10 ANSWER. IF HE DOESN'T WANT TO ASK A QUESTION, THEN WE CAN --
11 WE CAN COMPLY IN ALL RESPECTS WITH -- WITH THE COURT'S ORDER,
12 BOTH SIDES CAN, BUT IT'S JUST -- AND I THINK MR. SIEBMAN AGREES
13 AS WELL, I DON'T THINK IT REFLECTS WELL UPON AN EXPERT FOR THE
14 COURT TO SAY IN FRONT OF THE JURY, I'VE PROHIBITED, FOR
15 WHATEVER REASON, THE EXPERT FROM TESTIFYING ABOUT X, Y, AND Z.
16 I WOULD -- I WOULD VERY MUCH PREFER NOT TO HAVE SUCH A
17 STATEMENT MADE --

18 THE COURT: MM-HMM.

19 MR. RENARD: -- IN FRONT OF THE JURY.

20 THE COURT: ALL RIGHT. HOW DOES MR. MCDOWELL
21 MAKE THE POINT TO THE JURY THAT THERE IS NO SINGLE SOURCE IN
22 THE PUBLIC DOMAIN THAT REVEALS EACH OF THESE -- NO SINGLE
23 SOURCE FOR EACH OF THEM THAT REVEALS EACH OF THE 12 TRADE
24 SECRETS?

25 MR. RENARD: I -- I THINK, YOUR HONOR -- AND I'M

1 NOT TRYING TO STRATEGIZE FOR THE PLAINTIFFS, BUT PERHAPS THE
2 QUESTION TO THE EFFECT THAT I DID NOT HEAR DURING THE COURSE OF
3 THE EXAMINATION ANY OPINION TO THE EFFECT OF X, Y, AND Z AND
4 STOP THERE RATHER THAN, DO YOU HAVE AN OPINION, BECAUSE I THINK
5 THAT'S WHEN YOU START GETTING INTO TROUBLE.

6 IF THEY WANT TO UNDERSCORE WHAT WAS AND WAS NOT
7 IN MR. KNAUTH'S DIRECT TESTIMONY, BECAUSE THAT'S THE ONLY THING
8 FROM MR. KNAUTH THAT'S IN THE RECORD IS HIS TESTIMONY TODAY,
9 AND IF THEY WANT TO UNDERSCORE WHAT WAS SAID AND WHAT WAS NOT
10 SAID, I WOULD THINK THAT'S FAIR. BUT TO ASK HIM WHETHER HE HAS
11 AN OPINION AND, EVEN THOUGH HE DOES, TO HAVE HIM PROHIBITED
12 FROM DELIVERING IT BECAUSE OF THE ORDER, THAT'S NOT FAIR.

13 THE COURT: I'M TRYING TO REMEMBER HOW YOU
14 PHRASED YOUR QUESTION.

15 MR. MCDOWELL: I CAN TELL YOU EXACTLY. I ASKED
16 MR. KNAUTH TO CONFIRM THAT HE WAS NOT OFFERING ANY OPINION TO
17 THE JURY THAT BLANK EXISTED IN THE PUBLIC DOMAIN AT THE TIME OF
18 THE ALLEGED MISAPPROPRIATION, AND I TOOK THAT LANGUAGE OUT OF
19 YOUR HONOR'S RULING. I WANT TO BE VERY CLEAR THAT HE WAS NOT
20 OFFERING THAT OPINION TO THE JURY.

21 MR. RENARD: AND, YOUR HONOR --

22 THE COURT: YOU DIDN'T SAY ANYTHING ABOUT THE --
23 THE DISCUSSION OF ALL ASPECTS OF EACH TRADE SECRET IS IN THE
24 PUBLIC DOMAIN?

25 MR. MCDOWELL: WELL, WHEN WE TALKED ABOUT IT

1 THIS MORNING, WE HAD TALKED ABOUT THE LANGUAGE OF YOUR
2 CONCLUDING PARAGRAPH OF THE ORDER, THAT THAT MEANT TRADE SECRET
3 NUMBER 1, THE COMPLETE EMBODIMENT.

4 MR. RENARD: AND, YOUR HONOR, I -- I'D POINT
5 OUT, AND THIS IS THE KIND OF WORDING THAT -- THAT I WAS
6 DISTURBED BY. THERE IS A QUESTION THAT WENT, AND DESPITE YOUR
7 PRIOR TESTIMONY, YOU ARE NOT OFFERING ANY OPINION TO THE JURY
8 THAT TRADE SECRET NUMBER 2, THE USE OF SILICON ADHESIVE FOR FPA
9 MOUNTING EXISTED, SO WE HAVE A REFERENCE AS IF, DESPITE YOUR
10 PRIOR TESTIMONY --

11 THE COURT: DEPOSITION TESTIMONY?

12 MR. RENARD: YES, YOUR HONOR, IN WHICH HE DID
13 VOICE AN OPINION IN THAT RESPECT.

14 THE COURT: YEAH, I THINK THAT'S GOING TOO FAR.
15 I DON'T THINK THAT'S FAIR.

16 MR. MCDOWELL: WELL, HERE'S THE PROBLEM. I
17 MEAN, WITH -- GIVEN THE PIECEMEAL TESTIMONY THAT WE HAVE,
18 THERE'S GOT TO BE A WAY FOR EITHER THE COURT TO INSTRUCT THE
19 JURY THAT HE WAS PROHIBITED FROM COMING TO THAT CONCLUSION OR I
20 HAVE TO BE ALLOWED TO ASK THAT -- THAT QUESTION.

21 THE COURT: WELL, NOT IF THE JURY HASN'T HEARD
22 HIS DEPOSITION. WHY DO THEY NEED TO KNOW THAT HE WAS DEPOSED
23 AND OFFERED DIFFERENT TESTIMONY? THAT DOESN'T --

24 MR. MCDOWELL: I THINK IT WAS WHAT HE WAS SAYING
25 TODAY, YOUR HONOR, WAS, HERE'S THIS PIECE OF PUBLIC DATA,

1 HERE'S THAT PIECE OF PUBLIC DATA. AFTER ALL OF YOUR WORK AND
2 THE WORK THAT YOU'RE DOING AND THE -- THE DOCUMENTS YOU'VE
3 SEEN, AND THEN HE COMES UP WITH CONCLUSIONS. AND THAT
4 CONCLUSION IS MISLEADING. IT MISLEADS THE JURY INTO THINKING
5 THERE'S AN OPINION OUT THERE THAT IT HAS BEEN -- THAT IT EXISTS
6 IN THE PUBLIC DOMAIN WHEN IT DOESN'T.

7 MR. ROSE: YOUR HONOR, MAY WE HAVE A MOMENT JUST
8 TO CONFER?

9 THE COURT: SURE.

10 MR. MCDOWELL: MR. RENARD, WHAT LANGUAGE COULD
11 YOU SUGGEST FOR THE QUESTION?

12 MR. RENARD: IF I -- IF I'M BEING LOOKED TO AS A
13 SOLUTION, WHAT I SUGGEST, AND IT WAS JUST A THOUGHT, IS YOU CAN
14 SAY, I DIDN'T HEAR ANY TESTIMONY AS TO X, Y, AND Z; IS THAT
15 TRUE? JUST THAT.

16 MR. MCDOWELL: I DON'T THINK X, Y, AND Z WILL DO
17 IT FOR ME. WHAT ABOUT, I DIDN'T HEAR ANY TESTIMONY THAT TRADE
18 SECRET NUMBER 1, THE USE OF SILVER GOLD ALLOY WIRE EXISTED IN
19 THE PUBLIC DOMAIN AT THE TIME OF THE ALLEGED MISAPPROPRIATION?

20 THE COURT: ARE YOU GOING TO OBJECT TO THAT,
21 MR. RENARD?

22 MR. RENARD: YOUR HONOR, WHAT I WOULD PREFER IS
23 IF WE'RE TALKING ABOUT THAT, GOING BACK TO THE -- THE VERBIAGE
24 THAT WE'VE USED, "IN ITS ENTIRETY."

25 THE COURT: I THINK THAT'S THE ESSENCE OF -- OF

1 WHAT I WAS TRYING TO SAY IN THIS ORDER. I THINK IT WOULD BE
2 FAIR IF YOU ADDED THAT QUALIFIER OR SOMETHING LIKE, ALL ASPECTS
3 OF TRADE SECRET NUMBER 1.

4 MR. MCDOWELL: OKAY. I DIDN'T HEAR ANY
5 TESTIMONY FROM THE FULL EMBODIMENT OF TRADE SECRET NUMBER 1
6 EXISTED IN THE PUBLIC DOMAIN AT THE TIME OF THE ALLEGED
7 MISAPPROPRIATION.

8 THE COURT: I THINK THAT SOUNDS GOOD TO ME.

9 MR. MCDOWELL: ALL RIGHT. AND I'M NOT -- THAT'S
10 NOT OPENING THE DOOR FOR ANY ADDITIONAL TESTIMONY FROM THIS
11 WITNESS.

12 THE COURT: I DON'T BELIEVE SO. AND THEN HE'S
13 NOT SAYING THAT HE DOESN'T HAVE AN OPINION WHEN ACTUALLY HE
14 DOES BUT I DID NOT ALLOW HIM TO OFFER THAT OPINION. OKAY.

15 MR. MCDOWELL: I THINK I'VE GOT IT.

16 THE COURT: YOU READY TO RESUME?

17 MR. MCDOWELL: I AM.

18 THE COURT: MR. RENARD, ARE YOU READY?

19 MR. RENARD: YES, YOUR HONOR. MY -- MY ONLY
20 CONCERN IS -- IS MR. -- WELL, THERE ARE CERTAIN TRADE SECRETS
21 THAT THIS APPLIES TO AND CERTAIN ONES THAT IT DOESN'T, AND I
22 DON'T WANT MR. KNAUTH TO BE CONFUSED BETWEEN WHAT HE'S
23 PROHIBITED FROM TESTIFYING ABOUT AND WHAT HE CAN TESTIFY ABOUT.

24 THE COURT: WELL, THERE'S 12.

25 MR. RENARD: YES. 1 THROUGH 7, 9, 12, AND 13 --

1 13 AND 14.

2 THE COURT: SO, THERE'S 12 THAT THIS APPLIES TO.
3 THERE WERE NINE THAT HE'S ALREADY TESTIFIED HE DIDN'T OFFER ANY
4 OPINION ABOUT.

5 MR. RENARD: I THINK IT'S MY ONLY POINT, YOUR
6 HONOR, IT MAY BE --

7 THE COURT: SO THERE'S STILL TEN OUT THERE.

8 MR. RENARD: RIGHT, AND MY ONLY POINT IS, I --
9 TO THE EXTENT IT APPLIES, I -- I WOULD HOPE THAT COUNSEL WOULD
10 ASK THAT ONLY TO THOSE FOR WHICH THERE'S BEEN AN EXCLUSION.

11 MR. MCDOWELL: I WILL ASK THAT ONLY FOR THE ONES
12 THAT HAVE BEEN EXCLUDED.

13 MR. RENARD: THAT'S FINE.

14 THE COURT: OKAY. MR. WESTBERG, GO AHEAD AND
15 BRING THEM IN.

16 COURT SECURITY OFFICER: ALL RISE.

17 (JURY PRESENT)

18 THE COURT: ALL RIGHT. BE SEATED, PLEASE.

19 LADIES AND GENTLEMEN, I HAVE THE BUILDING
20 MANAGER WORKING ON THE PROBLEM WITH THE TEMPERATURE IN HERE.
21 I'M APPARENTLY NOT ABLE TO MAKE MUCH HEADWAY ON LOWERING THE
22 TEMPERATURE WITH THE THERMOSTAT I HAVE HERE, SO WE'LL SEE IF HE
23 CAN DO SOMETHING.

24 ALL RIGHT, MR. MCDOWELL.

25 CROSS-EXAMINATION OF JONATHAN KNAUTH CONT'D

1 BY MR. MCDOWELL:

2 Q. MR. KNAUTH, ON DIRECT, WE WERE -- WE WERE JUST --
3 BEFORE OUR BREAK, WE WERE DISCUSSING SOME SPECIFIC TRADE
4 SECRETS; DO YOU RECALL THAT?

5 A. YES.

6 Q. OKAY. ON DIRECT, I DIDN'T HEAR ANY TESTIMONY THAT
7 THE FULL EMBODIMENT OF TRADE SECRET NUMBER 1, THE USE OF SILVER
8 GOLD ALLOY, EXISTED IN THE PUBLIC DOMAIN AT THE TIME OF THE
9 ALLEGED MISAPPROPRIATION, TRUE?

10 A. TRUE.

11 Q. I DIDN'T HEAR ANY TESTIMONY FROM YOU THAT THE FULL
12 EMBODIMENT OF TRADE SECRET NUMBER 2, THE USE OF SILICON
13 ADHESIVE FOR FPA MOUNTING, EXISTED IN THE PUBLIC DOMAIN AT THE
14 TIME OF THE ALLEGED MISAPPROPRIATION, TRUE?

15 A. YES.

16 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL EMBODIMENT
17 OF TRADE SECRET NUMBER 3, BACKSIDE AND EDGE TREATMENT OF THE
18 FPA PLATFORM MOTHERBOARD, EXISTED IN THE PUBLIC DOMAIN AT THE
19 TIME OF THE ALLEGED MISAPPROPRIATION, TRUE?

20 A. IN ITS FULL EMBODIMENT?

21 Q. IN ITS FULL EMBODIMENT.

22 A. THAT'S TRUE.

23 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL EMBODIMENT
24 OF TRADE SECRET NUMBER 4, THE USE OF 2216 ADHESIVE FOR VACUUM
25 AND CRYOGENIC PACKAGING EXISTED IN THE PUBLIC DOMAIN AT THE

1 TIME OF THE ALLEGED MISAPPROPRIATION, CORRECT?

2 A. YES.

3 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL EMBODIMENT
4 OF TRADE SECRET NUMBER 5, MECHANICAL ISOLATION BETWEEN THE FPA
5 PLATFORM/MOTHERBOARD COLD FINGER EXISTED IN THE PUBLIC DOMAIN AT
6 THE TIME OF THE ALLEGED MISAPPROPRIATION, CORRECT?

7 A. YES.

8 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL EMBODIMENT
9 OF TRADE SECRET NUMBER 6, THE USE OF ALUMINUM NITRIDE FOR THE
10 MECHANICAL ISOLATOR PLATFORM EXISTED IN THE PUBLIC DOMAIN AT
11 THE TIME OF THE ALLEGED MISAPPROPRIATION, TRUE?

12 A. YES.

13 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE USE OF CERTAIN
14 METHODS TO CONTROL STRAY LIGHT IN ITS FULL EMBODIMENT OF TRADE
15 SECRET NUMBER 5 EXISTED IN THE PUBLIC DOMAIN AT THE TIME --
16 TRADE SECRET NUMBER 7. I'M SORRY. I COMPLETELY MESSED THAT
17 UP. I'M GOING TO STRIKE IT MYSELF AND START OVER; IS THAT OKAY
18 WITH YOU?

19 A. THAT WORKS FOR ME.

20 Q. OKAY. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL
21 EMBODIMENT OF TRADE SECRET NUMBER 7, THE USE OF CERTAIN METHODS
22 TO CONTROL STRAY LIGHT, EXISTED IN THE PUBLIC DOMAIN AT THE
23 TIME OF THE ALLEGED MISAPPROPRIATION, RIGHT?

24 A. YES.

25 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL EMBODIMENT

1 OF TRADE SECRET NUMBER 9, THE USE OF A STIFFENING ELEMENT TO
2 CONTROL IMAGE PLANE MOTION, EXISTED IN THE PUBLIC DOMAIN AT THE
3 TIME OF THE ALLEGED MISAPPROPRIATION, TRUE?

4 A. YES.

5 Q. I DIDN'T HEAR ANY TESTIMONY THAT THE FULL EMBODIMENT
6 OF TRADE SECRET NUMBER 13, THE USE OF WET HYDROGEN FIRING TO
7 REDUCE SURFACE DECARBURIZATION, EXISTED IN THE PUBLIC DOMAIN AT
8 THE TIME OF THE ALLEGED MISAPPROPRIATION, RIGHT?

9 A. YES.

10 Q. I ALSO DIDN'T HEAR ANY TESTIMONY THAT THE FULL
11 EMBODIMENT OF TRADE SECRET NUMBER 14, THE METHOD AND USE OF
12 SEQUENTIAL VACUUM BAKE, EXISTED IN THE PUBLIC DOMAIN AT THE
13 TIME OF THE ALLEGED MISAPPROPRIATION, RIGHT?

14 A. YES.

15 Q. I ALSO DIDN'T HEAR ANY TESTIMONY THAT TRADE SECRET --
16 THAT THE FULL EMBODIMENT, EXCUSE ME, OF TRADE SECRET NUMBER 27,
17 THE USE OF ALUMINA-FILLED 2216 ADHESIVE, EXISTED IN THE PUBLIC
18 DOMAIN AT THE TIME OF THE ALLEGED MISAPPROPRIATION, CORRECT?

19 A. YES.

20 Q. FINALLY, I DIDN'T HEAR ANY TESTIMONY THAT THE FULL
21 EMBODIMENT OF TRADE SECRET NUMBER 30, IN SITU SOLDER SEAL
22 PACKAGE ASSEMBLY PROCESS, EXISTED IN THE PUBLIC DOMAIN AT THE
23 TIME OF THE ALLEGED MISAPPROPRIATION; IS THAT TRUE?

24 A. YES.

25 Q. NOW THAT WE'VE KIND OF GOT OUR FRAMEWORK, LET'S TALK

1 A LITTLE BIT ABOUT SOME THINGS THAT I THINK WE AGREE ON, BUT I
2 WANT TO BE SURE THAT WE DO, ON SOME ENGINEERING PROCESSES AND
3 TALKING ABOUT A BASELINE FOR SOME OF THE WORK THAT YOU
4 TESTIFIED ABOUT, OKAY?

5 A. OKAY.

6 Q. YOU WOULD AGREE WITH ME, WOULDN'T YOU, THAT IT'S A
7 GOOD ENGINEERING PRACTICE TO WRITE DOWN YOUR WORK?

8 A. IT CERTAINLY IS A GOAL. IT'S A -- IT'S A GOOD
9 PRACTICE.

10 Q. RIGHT. YOU AGREE IT'S GOOD PRACTICE?

11 A. IT'S A GOOD PRACTICE.

12 Q. AND YOU WOULD AGREE WITH ME THAT ONE OF THE REASONS
13 YOU DO THAT IS YOU WANT TO HAVE REFERENCE TO PROVE THE
14 ORIGINATION OF A PROCESS, RIGHT?

15 A. NOT NECESSARILY.

16 Q. DO YOU RECALL TESTIFYING THAT YOU AGREED WITH THAT IN
17 YOUR DEPOSITION BACK IN 2008?

18 A. YOU KNOW I -- I REMEMBER TESTIFYING TO THE GENERAL
19 SUBJECT AREA, AND -- AND KIND OF TO SUM IT UP, IT'S A GOOD IDEA
20 TO -- TO WRITE DOWN EVERYTHING THAT YOU DO, BUT IT'S THE SORT
21 OF THING THAT TYPICALLY DOESN'T HAPPEN BECAUSE OF OTHER
22 CONSIDERATIONS SUCH AS SCHEDULE AND -- AND SO FORTH.

23 Q. OKAY. DO YOU REMEMBER GIVING A DEPOSITION BACK IN
24 2008?

25 A. YES.

1 Q. SPECIFICALLY, YOUR DEPOSITION WAS ON SEPTEMBER 23RD
2 OF 2008, RIGHT?

3 A. I BELIEVE SO.

4 Q. I BELIEVE MY COLLEAGUE, MR. CUNNINGHAM, TOOK YOUR
5 DEPOSITION?

6 A. YES.

7 Q. AND HE ASKED YOU, YOU'LL WANT TO HAVE RECORDS THAT
8 YOU CAN PROVE THE DATE OF ORIGINATION, CORRECT?

9 MR. RENARD: COUNSEL, DO YOU MIND JUST GIVING US
10 A PAGE NUMBER, PLEASE, IF YOU'RE REFERRING TO A DEPOSITION?

11 MR. MCDOWELL: PAGE 211.

12 MR. RENARD: THANK YOU.

13 Q. (BY MR. MCDOWELL) AND YOU RESPONDED, CORRECT?

14 A. YES.

15 Q. ALL RIGHT. SO YOU'RE NOT CHANGING THAT TESTIMONY
16 TODAY?

17 A. NO.

18 Q. YOU WOULD AGREE WITH ME THAT IT IS SOUND ENGINEERING
19 PRACTICE TO TEST AND VALIDATE A NEW PROCESS BEFORE YOU ACTUALLY
20 PUT IT IN PLACE, RIGHT?

21 A. IT'S DEFINITELY A GOOD IDEA.

22 Q. AND YOU ADMITTED, I BELIEVE, IN YOUR DEPOSITION, THAT
23 YOU, JONATHAN KNAUTH, ENCOURAGED YOUR PEOPLE THAT YOU WORK WITH
24 TO WRITE DOWN WHAT THEY DO, RIGHT?

25 A. CERTAINLY ENCOURAGE.

1 Q. AND YOU AGREE THAT COMPANIES, GENERALLY, CAN HAVE --
2 YOU AGREE WITH ME THAT IF YOU WENT FROM ONE EMPLOYER TO A
3 COMPETITOR, THAT YOU WOULD AVOID TALKING ABOUT ANYTHING THAT
4 YOUR FORMER COMPANY THOUGHT WAS PROPRIETARY, RIGHT?

5 A. YEAH.

6 Q. YOU MENTIONED A SADA REPORT IN YOUR DIRECT; DO YOU
7 RECALL THAT?

8 A. YES.

9 Q. WHAT DOES "SADA" STAND FOR?

10 A. STANDARD ADVANCED DEWAR ASSEMBLY.

11 Q. NOW, THE REPORT THAT YOU WERE TALKING ABOUT WAS A
12 REPORT THAT YOU ACQUIRED FROM YOUR BOSS AT ICC, RIGHT?

13 A. THAT'S CORRECT.

14 Q. THAT'S THE ONLY COPY OF THE SADA REPORT THAT'S BEEN
15 PRODUCED IN THIS CASE, TRUE?

16 A. I BELIEVE SO.

17 Q. RIGHT. AND SO THAT'S NOT ONE FROM THE FILES OF
18 INDIGO/FLIR; THAT'S A DOCUMENT THAT YOU PULLED THAT YOUR BOSS
19 GAVE YOU AT ICC, RIGHT?

20 A. THAT'S CORRECT.

21 Q. AND YOU DON'T KNOW, OR AT LEAST YOU DIDN'T KNOW AT
22 THE TIME OF YOUR DEPOSITION, WHETHER THAT WAS PART OF THE
23 CUSTOMER REVIEW FOR THE GOVERNMENT, DID YOU?

24 A. I -- I DON'T QUITE UNDERSTAND THE QUESTION.

25 Q. WHEN -- WHEN WE TOOK YOUR DEPOSITION, WE ASKED YOU

1 WHAT THE SOURCE OF THAT DOCUMENT WAS; DO YOU REMEMBER THAT?

2 A. YES.

3 Q. AND YOU TESTIFIED THAT YOU GOT IT FROM YOUR BOSS,
4 RIGHT?

5 A. YEP.

6 Q. YOU DIDN'T KNOW WHAT -- WHETHER HE SIGNED AN NDA OR A
7 NONDISCLOSURE AGREEMENT TO RECEIVE IT, RIGHT?

8 A. I -- I SUBSEQUENT TO THAT DID LOOK AT THE FILES
9 SURROUNDING THAT SUBJECT, AND I FOUND A LETTER OF -- OF --
10 ACKNOWLEDGING THAT MY BOSS WAS GOING TO GO TO THAT, AND THERE
11 WAS NO DISCUSSION WHATSOEVER OF ANY NONDISCLOSURE AGREEMENT, OF
12 ANY PROPRIETARY INFORMATION OR SO FORTH. THERE WAS JUST A,
13 THIS WHEN IT IS, THIS IS WHERE YOU DEPART TYPE THING.

14 Q. YOU WEREN'T INVITED TO IT, WERE YOU?

15 A. NO.

16 Q. ALL RIGHT. AND YOU DON'T KNOW, MUCH LIKE THE CDA WE
17 DISCLOSED EARLY -- DISCUSSED EARLIER TODAY, YOU DON'T KNOW
18 WHETHER THERE WAS A CDA OR NOT, DO YOU?

19 A. THERE CERTAINLY WASN'T ONE IN THE FILES.

20 Q. RIGHT. AND THE FILE THAT YOU REVIEWED WAS YOUR FILE.
21 THAT'S WHERE YOU SAID YOU GOT THE DOCUMENT FROM, RIGHT?

22 A. WELL, IT WAS THE COMPANY FILES THAT STILL EXISTED AT
23 THAT TIME.

24 Q. OKAY. SO, YOU -- YOU FOUND NO CDA WITH RESPECT TO
25 THE SADA DOCUMENT JUST LIKE YOU FOUND NO CDA WITH RESPECT TO

1 ICC'S WORK WITH RAYTHEON AMBER?

2 A. THEY WOULD HAVE BEEN IN DIFFERENT PLACES, BUT -- BUT
3 YEAH, I DIDN'T -- I DIDN'T FIND ANY, CERTAINLY.

4 Q. AND YOU ADMIT THAT DURING THE COURSE OF YOUR WORK
5 WITH ICC, NDA'S AND CDA'S WERE NORMALLY SIGNED, RIGHT?

6 A. NORMALLY.

7 Q. AND YOU DON'T KNOW THE -- THE TYPE OF MEETING, THE
8 CUSTOMER REVIEW, YOU DON'T KNOW WHAT THE REQUIREMENTS WERE OF
9 THE PARTICIPANTS BECAUSE YOU WEREN'T ONE, RIGHT?

10 A. WELL, I WAS -- THE WHOLE THING WAS DESCRIBED TO ME.
11 THE THING WAS DESCRIBED TO ME AT THE TIME, YOU KNOW, RIGHT
12 AFTER THIS -- I STARTED BUSINESS -- I STARTED WORKING THERE
13 RIGHT AFTER THIS. THAT DOCUMENT WAS GIVEN TO ME AS A PRIMER ON
14 DEWAR DESIGN, AND THE CIRCUMSTANCES OF WHERE IT CAME FROM
15 AND -- AND SOME OF THE KIND OF LITTLE STORIES ABOUT THE ACTUAL
16 TOUR THAT WAS GIVEN OF THE PLANT WERE ALL TOLD TO ME.

17 Q. THE COPY OF THE DOCUMENT THAT'S BEEN SHOWN TO THE
18 JURY AND THE COPY OF THE DOCUMENT THAT'S BEEN RELIED ON BY SOME
19 OF THE WITNESSES, THAT'S THE COPY NOT FROM INDIGO AND FLIR BUT
20 OUT OF YOUR FILE, RIGHT?

21 A. THAT IS CORRECT.

22 Q. IN 2008, WHEN IT WAS PRODUCED IN THE CASE, RIGHT?

23 A. YES.

24 Q. IT WASN'T SOMETHING THAT FLIR WAS RELYING ON BACK IN
25 2003 OR 2004, TRUE?

1 A. I -- I DON'T KNOW THAT TO BE TRUE OR FALSE. I JUST
2 DON'T KNOW.

3 Q. THEY WEREN'T RELYING ON THAT COPY BECAUSE THEY DIDN'T
4 HAVE IT UNTIL 2008?

5 A. NOT THAT SPECIFIC COPY.

6 Q. THAT'S THE ONLY ONE THAT'S BEEN PRODUCED, TRUE?

7 A. TO MY KNOWLEDGE, YES.

8 Q. LET'S TALK ABOUT SILVER GOLD WIRE FOR JUST A SECOND.
9 THAT'S TRADE SECRET NUMBER 1. YOU UNDERSTAND THAT RAYTHEON
10 QUALIFIED AND SPECIFIED A 75/25 GOLD-SILVER WIRE FOR USE IN
11 ELECTRICAL FEEDTHROUGHS IN A DEWAR, TRUE?

12 A. THAT'S FALSE.

13 Q. DO YOU RECALL AT YOUR DEPOSITION?

14 A. THE TERM IS FEEDTHROUGH. IT'S NOT A FEEDTHROUGH.

15 Q. IN YOUR DEPOSITION ON PAGE 269 --

16 A. YEAH, IT'S NOT A FEEDTHROUGH.

17 Q. SIR, DO YOU RECALL THE QUESTION YOU WERE ASKED: YOU
18 UNDERSTAND THAT RAYTHEON DID QUALIFY AND SPECIFY A
19 75 PERCENT/25 PERCENT GOLD WIRE FOR USE IN ELECTRICAL
20 FEEDTHROUGHS IN A DEWAR AND YOUR RESPONSE WAS YES?

21 A. I OBVIOUSLY MISUNDERSTOOD THE QUESTION. IT'S NOT A
22 FEEDTHROUGH. IT'S AN INTERCONNECT. IT'S A -- THERE'S A BIG
23 DISTINCTION THERE.

24 Q. OKAY. SO, IF -- YOU'RE GRUMBLING WITH ME OVER
25 FEEDTHROUGH AND INTERCONNECT?

1 A. YES, SIR.

2 Q. OKAY. SO, DESPITE WHAT YOU TESTIFIED TO BACK IN MAY
3 OF -- BACK IN SEPTEMBER OF 2008, YOU AGREE WITH ME TODAY THAT
4 RAYTHEON QUALIFIED AND SPECIFIED A 75/25 GOLD SILVER WIRE FOR
5 USE IN AN INTERCONNECT IN A DEWAR, TRUE?

6 A. YES.

7 Q. AND YOU AGREE THAT GOLD SILVER WIRE WAS NOT THE BEST
8 FOR THERMAL CONDUCTIVITY IF THAT WAS WHAT YOU WERE CONCERNED
9 ABOUT, RIGHT?

10 A. THAT'S CORRECT.

11 Q. AND YOU AGREE THAT GOLD SILVER WIRE'S NOT THE BEST
12 WITH RESPECT TO ELECTRICAL PROPERTIES IF THAT'S WHAT YOU'RE
13 CONCERNED ABOUT, RIGHT?

14 A. YES.

15 Q. YOU WOULD AGREE THAT GOLD SILVER WIRE WOULD NOT BE
16 THE BEST CHOICE IF TENSILE STRENGTH WAS YOUR MAIN CONCERN,
17 TRUE?

18 A. YES.

19 Q. YOU AGREE THAT SPECIFYING GOLD SILVER WIRE FOR USE IN
20 A COOLED DEWAR IS A NONOBVIOUS SOLUTION BECAUSE ON ITS FACE, IT
21 DOES NOT APPEAR TO BE AN IDEAL MATERIAL, RIGHT?

22 A. YEAH, I -- YEAH, I THINK SO.

23 Q. AND YOU -- I THINK YOU WOULD AGREE WITH ME THAT ICC,
24 THE COMPANY YOU RELIED ON THIS MORNING, HAS NEVER USED GOLD
25 SILVER WIRE FOR ELECTRICAL INTERCONNECTS, TRUE?

1 A. THAT IS CORRECT.

2 Q. WERE YOU -- YOU WERE AWARE, WERE YOU NOT, THAT
3 RAYTHEON ALLOCATED \$75,000 TO RESEARCH IMPROVED INTERCONNECTS?

4 A. I GUESS I DON'T QUITE UNDERSTAND THE QUESTION.
5 RESEARCH IMPROVED INTERCONNECTS?

6 Q. YES.

7 A. YEAH, OKAY, YES.

8 Q. AND YOU'RE AWARE THAT RAYTHEON ALLOCATED SPECIFIC
9 FUNDS TO RESEARCH THE INTERCONNECTS, TRUE?

10 A. YES.

11 Q. AND YOU KNOW THAT ANDREW SHARPE HEADED THAT EFFORT
12 FOR RAYTHEON, RIGHT?

13 A. YES.

14 Q. YOU -- DID YOU -- BUT YOU NEVER DISCUSSED WITH ANDREW
15 SHARPE THE FACT THAT HE PERFORMED TENSILE TESTS ON ALL THE
16 AVAILABLE WIRES THAT COULD BE USED IN A DEWAR WHEN HE WAS AT
17 RAYTHEON, DID YOU?

18 A. I -- I'M SORRY, IF YOU COULD JUST REPEAT THE
19 QUESTION. I DIDN'T QUITE GET THE FIRST PART OF IT.

20 Q. SURE. EARLIER TODAY, YOU TALKED ABOUT HOW YOU
21 INTERVIEWED ANDREW SHARPE, RIGHT?

22 A. YES.

23 Q. AND YOU DIDN'T DISCUSS WITH MR. SHARPE THE FACT THAT
24 WHILE HE WAS AT RAYTHEON, HE PERFORMED TENSILE TESTS ON ALL
25 AVAILABLE WIRES THAT COULD BE USED IN A DEWAR, DID YOU?

1 A. YEAH, I DON'T RECALL ASKING HIM THAT SPECIFIC
2 QUESTION, BUT IT WAS IN THE DOCUMENTS, SO THERE'S NO NEED TO.

3 Q. AND -- AND SO YOU DIDN'T DISCUSS WITH HIM HIS
4 CONCLUSIONS THAT THE INFORMATION THAT WAS THEN AVAILABLE WAS
5 INCORRECT, RIGHT?

6 A. IT WAS IN THE DOCUMENT. I DIDN'T FEEL THE NEED TO DO
7 THAT.

8 Q. YOU AGREE THAT ANDREW SHARPE HAD CONSIDERABLE
9 EXPOSURE TO RAYTHEON'S TESTING AND VALIDATION OF THE USE OF
10 GOLD SILVER WIRE FOR THE ELECTRICAL INTERCONNECTS, RIGHT?

11 A. YES.

12 Q. YOU WOULD AGREE WITH ME THAT YOU WERE NOT ABLE TO
13 IDENTIFY A SINGLE PUBLIC DOMAIN DOCUMENT DESCRIBING THE USE OF
14 GOLD SILVER WIRE IN A DEWAR, RIGHT?

15 A. THAT'S CORRECT.

16 Q. YOU WOULD AGREE WITH ME THAT RAYTHEON INFORMED ANDREW
17 SHARPE THAT IT BELIEVED GOLD SILVER WIRE WAS PROPRIETARY,
18 RIGHT?

19 A. YES, I REMEMBER THAT.

20 Q. AND YOU WOULD AGREE WITH ME THAT ANDREW SHARPE, LESS
21 THAN 30 DAYS AFTER ARRIVING AT INDIGO, CONDUCTED NERAC SEARCHES
22 FOR GOLD SILVER WIRE 75/25, TRUE?

23 A. YES.

24 Q. NOW, YOU MENTIONED SOMETHING ABOUT HARDNESS AND
25 ELONGATION THIS MORNING?

1 A. MM-HMM.

2 Q. REMEMBER THAT?

3 A. YEP.

4 Q. DO YOU REMEMBER WHEN YOU GAVE YOUR DEPOSITION BACK IN

5 SEPTEMBER OF 2008, YOU WERE ASKED, SPECIFICALLY, ABOUT

6 HARDNESS; DO YOU REMEMBER THAT?

7 A. YES, I DO.

8 Q. AND YOU DIDN'T HAVE ANY OPINION ABOUT HARDNESS BACK

9 WHEN WE DEPOSED YOU, DID YOU?

10 A. NO, I DID NOT.

11 Q. IN FACT, MR. CUNNINGHAM ASKED, SO YOU REALLY CAN'T

12 OFFER DETAILED OPINIONS ON HOW THE HARDNESS OF WIRES COMES INTO

13 PLAY WITH RESPECT TO WIREBONDING, AND YOU RESPONDED, THAT'S

14 CORRECT, TRUE?

15 A. AT THAT TIME, SURE.

16 Q. SO, THAT -- THAT COMMENTARY AND OPINION THAT YOU HAD

17 THIS MORNING WAS AFTER YOUR DEPOSITION AND AFTER YOU WROTE YOUR

18 REPORTS?

19 A. THAT'S CORRECT.

20 Q. LET'S TALK FOR A SECOND ABOUT THE USE OF SILICON

21 ADHESIVE, TRADE SECRET NUMBER -- NUMBER 2, 93-500, OKAY? I

22 THINK WE AGREE THAT THE USE -- THAT FPA'S ARE VERY DELICATE AND

23 CHALLENGING TO MOUNT, RIGHT?

24 A. YES, THAT'S CORRECT.

25 Q. SOMETHING THAT ACTS ONE WAY AT NEGATIVE 65 DEGREES

1 CELSIUS MIGHT ACT A COMPLETELY DIFFERENT WAY AT NEGATIVE

2 196 DEGREES CELSIUS, TRUE?

3 A. IT MIGHT.

4 Q. YOU AGREE THAT IF YOU WANTED TO USE AN ADHESIVE

5 BEYOND THE TEMPERATURE RANGE SPECIFIED BY THE MANUFACTURER, IT

6 WOULD BE A GOOD ENGINEERING PRACTICE TO TEST IT FIRST, RIGHT?

7 A. YES.

8 Q. BUT YOU DIDN'T SEE ANY TESTING OR TESTING DOCUMENTS

9 AT INDIGO/FLIR BEFORE THE FIRST USE OF 93-500, RIGHT?

10 A. YEAH, THAT'S -- YES. THAT'S CORRECT.

11 Q. YOU DID MENTION AT SOME POINT THAT THERE WERE TESTING

12 OF 11 OR SO ADHESIVES THAT HAD BEEN IDENTIFIED OFF THE NASA

13 OUTGASSING CHART, TRUE?

14 A. I'M SORRY, I DON'T RECALL THAT.

15 Q. MAYBE I MISHEARD YOU. SO, THERE WERE -- YOUR

16 TESTIMONY IS THAT THERE WAS NO TESTING AT ALL?

17 A. COULD YOU PROVIDE A TIME FRAME FOR THAT?

18 Q. SURE. PRIOR TO ITS SPECIFICATION AND USE BY INDIGO.

19 A. I'M NOT THINKING OF ANY IMMEDIATELY.

20 Q. PRIOR TO THE TIME IT WAS -- PRIOR TO THE TIME THERE

21 WAS ANY EFFORT TO FIND SOMETHING ON NERAC, THERE WAS NO

22 TESTING, RIGHT?

23 A. I -- I'M NOT AWARE OF ANY.

24 Q. SO THAT -- OUT OF ALL OF THE ADHESIVES THAT COULD

25 HAVE BEEN USED, 93-500 WAS THE ONE THAT WAS USED, AND YOU

1 DIDN'T SEE ANY TESTING TO VALIDATE BEFORE IT WAS USED, TRUE?

2 A. WELL, I THINK THAT THE -- I THINK THAT THERE WAS
3 EXPERIENCE FROM OTHER SOURCES. I THINK THERE WAS PUBLIC --
4 THERE WAS DATA IN THE PUBLIC DOMAIN THAT WAS TESTING.
5 WHETHER -- WHETHER INDIGO TESTED IT, I DON'T RECALL SUCH A
6 TEST.

7 Q. RIGHT. YOU DIDN'T SEE ANY TESTING THAT INDIGO DID
8 BEFORE IT WAS SPECIFIED IN 1999, RIGHT?

9 A. NO.

10 Q. IN FACT, YOU ADMIT THAT IN 1999, VU NGUYEN SPECIFIED
11 93-500 FOR PERMANENTLY MOUNTING THE FPA'S AND FOR MOUNTING THE
12 COLDFINGER TO THE COLDSHIELD, TRUE?

13 A. NO.

14 Q. YOU DENY THAT?

15 A. WELL, COLDFINGERS DON'T MOUNT TO COLDSHIELDS.

16 Q. ALL RIGHT.

17 MR. MCDOWELL: DO YOU HAVE A COPY OF
18 MR. KNAUTH'S REPORT?

19 Q. DO YOU HAVE A COPY OF YOUR REPORT THERE WITH YOU?

20 A. NO.

21 Q. NEVER MIND. I CAN'T READ. I APOLOGIZE.

22 A. YOU HAD ME GOING THERE.

23 Q. I THOUGHT I HAD SOMETHING. I APOLOGIZE. IT'S JUST
24 MY DYSLEXIA KICKING IN.

25 SO, BARRING MY INABILITY TO READ, YOU ADMIT THAT

1 IN 1999, VU NGUYEN SPECIFIED 93-500 FOR PERMANENTLY MOUNTING
2 THE FPA'S AND FOR MOUNTING THE COLD FILTER TO THE COLD SHIELD?

3 A. YEAH, I -- I THINK -- I THINK THAT'S ACCURATE.

4 THE COURT: MR. MCDOWELL, LET ME JUST INTERRUPT
5 YOU. LADIES AND GENTLEMEN, SOMETIMES THE HVA SYSTEM HERE JUST
6 GOES HAYWIRE, AND SO IT'S JUST HEATING US UP FOR NO REASON
7 HERE. I'VE GOT IT DOWN ON 68 AND IT'S SHOWING 76 IN HERE, SO
8 IF THE GENTLEMEN WANT TO TAKE THEIR COATS OFF, THAT'S FINE.
9 LAWYERS INCLUDED. WHATEVER YOU'D LIKE TO DO. I DON'T KNOW HOW
10 IT IS OVER THERE.

11 JUROR: IT'S HOT.

12 THE COURT: IT'S HOT HERE.

13 MR. RENARD: YOUR HONOR, UNTIL YOU MENTIONED IT
14 WAS HOT, I WASN'T THINKING, BUT NOW I'M THINKING ABOUT IT.

15 THE COURT: SEEMS WARM TO ME.

16 MR. CUNNINGHAM: IT'S GOING TO GO TO 62 DEGREES
17 IN A SECOND.

18 THE COURT: YEAH, IT MIGHT.

19 OKAY. MR. MCDOWELL?

20 Q. (BY MR. MCDOWELL) ALL RIGHT, MR. KNAUTH, LET'S GO
21 BACK TO -- AND SKIP AHEAD TO TRADE SECRET NUMBER 3. BACKSIDE
22 AND EDGE METALLIZATION. WHEN -- WHEN -- DURING YOUR TESTIMONY
23 ON DIRECT, YOU TALKED QUITE A BIT ABOUT BACKSIDE METALLIZATION,
24 BUT I DIDN'T HEAR ANY TESTIMONY ABOUT EDGE METALLIZATION. I
25 WANT TO FOCUS A LITTLE BIT ABOUT THAT. ICC, IN FACT,

1 METALLIZES THE BACKSIDE BUT NOT THE EDGES, TRUE?

2 A. WELL, THERE WAS -- GENERALLY SPEAKING, YES. I DO
3 RECALL ONE MOTHERBOARD THAT DID HAVE EDGE METALLIZATION, BUT
4 JUST FROM HANDLING IT. I DIDN'T DO IT MYSELF.

5 Q. SO, YOU -- BUT YOU RECALL THAT BEING YOUR -- YOUR
6 DEPOSITION TESTIMONY BACK IN 2008 THAT ICC METALLIZED THE
7 BACKSIDE BUT NOT THE EDGES?

8 A. YES.

9 Q. YOU WOULD AGREE THAT THERE IS NO PUBLIC DOCUMENTATION
10 THAT YOU WERE ABLE TO IDENTIFY SHOWING EDGE METALLIZATION,
11 RIGHT?

12 A. I FOUND A LOT OF DOCUMENTATION SHOWING EDGE
13 METALLIZATION.

14 Q. BACK IN 2008, WE ASKED -- MR. CUNNINGHAM ACTUALLY
15 ASKED YOU, ON PAGE 84 AND 85, "YOU DON'T REFER TO ANY PUBLICLY
16 AVAILABLE DOCUMENTS OR DATA THAT SHOW A MOTHERBOARD AND A
17 TACTICAL DEWAR BEING EDGE METALLIZED, DO YOU?" YOU SAID,
18 "SURE, AND I'M FAMILIAR WITH THAT, AND THE ANSWER TO YOUR
19 QUESTION IS NO."

20 SO, AT LEAST AT THE TIME OF THE DEPOSITION, YOU
21 HAVE TO AGREE WITH ME THAT YOU HAD NOT BEEN ABLE TO IDENTIFY
22 ANY PUBLIC DOCUMENTATION TO BACK UP EDGE METALLIZATION, TRUE?

23 A. YEAH, THAT -- THAT'S CORRECT FOR THAT SPECIFIC
24 APPLICATION.

25 Q. RIGHT, AND YOU CERTAINLY DIDN'T FIND ANY

1 DOCUMENTATION IN THE INDIGO/FLIR DOCUMENTS THAT BACKED UP
2 INDIGO/FLIR'S USE OF EDGE METALLIZATION, RIGHT?

3 A. YEAH, I CAN'T RECALL ANY.

4 Q. YOU ADMIT, THOUGH, THAT VU NGUYEN SPECIFIED BACKSIDE
5 METALLIZATION IN 1999, TRUE?

6 A. YEAH, I'M NOT RECALLING IF IT WAS '99 OR 2000, BUT
7 YES.

8 Q. LET'S TALK ABOUT 2216 FOR JUST A MOMENT. I THINK --
9 WERE YOU HERE WHEN MR. NGUYEN -- VU NGUYEN'S TESTIMONY WAS
10 PLAYED?

11 A. YES.

12 Q. AND SO -- AND THEN YOU'RE AWARE THAT HE TESTIFIED
13 THAT HE KNEW OF 2216 FROM WORKING AT AMBER/RAYTHEON, RIGHT?

14 A. YEAH, I -- I'M NOT RECALLING THAT SPECIFIC STATEMENT,
15 BUT --

16 Q. AND -- AND YOU'RE AWARE THAT HE SPECIFIED 2216 TO
17 PERMANENTLY MOUNT THE COLDSHIELD TO THE MOTHERBOARD IN 1999,
18 RIGHT?

19 A. YEAH, I THINK THAT'S CORRECT.

20 Q. AND THAT HE SPECIFIED 2216 TO MOUNT THE MOTHERBOARD
21 TO THE PLATFORM IN 1999 AS WELL, TRUE?

22 A. YEAH, I THINK THAT'S CORRECT.

23 Q. AND THAT MR. NGUYEN ALSO SPECIFIED 2216 TO MOUNT THE
24 PLATFORM TO THE COLDFINGER IN 1999, RIGHT?

25 A. YES.

1 Q. AND I BELIEVE YOU MENTIONED A POWERPOINT PRESENTATION
2 IN WHICH CVS INDIGO/FLIR IDENTIFIED 2216 AS ONE OF ITS CORE
3 PROCESSES; DO YOU RECALL THAT?

4 A. YES.

5 Q. AND THAT WAS A CORE PROCESS IN 2004 AND 2005, RIGHT?

6 A. YES.

7 Q. DURING YOUR DIRECT, YOU TALKED A LITTLE BIT ABOUT
8 MECHANICAL ISOLATION; DO YOU RECALL THAT?

9 A. YEP.

10 Q. NOW, I -- I DON'T THINK YOU DISPUTE THAT ANDREW
11 SHARPE, WHEN HE WORKED AT RAYTHEON, WORKED WITH THE DRUMHEAD
12 ISSUE WHEN HE WAS AT RAYTHEON, RIGHT?

13 A. YES, HE DID.

14 Q. AND ANDREW SHARPE -- WELL, WERE YOU IN THE COURTROOM
15 WHEN -- WHEN MR. SHARPE TESTIFIED?

16 A. YES, I WAS.

17 Q. AND -- AND YOU'RE AWARE THAT MR. SHARPE CLAIMED THAT
18 A MAN BY THE NAME OF RICHARDSON DESIGNED THE MECHANICAL
19 ISOLATION ELEMENTS?

20 A. MECHANICAL -- YES, I THINK I RECALL THAT.

21 Q. AND THEN ANDREW -- ANDREW SHARPE CLAIMED THAT HE
22 SPOKE TO A GENTLEMAN BY THE NAME OF NUSSMEIER ABOUT DRUMHEAD,
23 RIGHT?

24 A. WELL, I DON'T RECALL -- I DON'T RECALL HIM SAYING
25 THAT. I REMEMBER SEEING AN E-MAIL TO THAT SUBJECT.

1 Q. AND -- AND THEN SINCE YOU WERE HERE FOR VU NGUYEN,
2 YOU REMEMBER MR. NGUYEN CLAIMING IN HIS DEPOSITION THAT HE
3 DESIGNED IT, RIGHT?

4 A. YES.

5 Q. OKAY. AND THEN WERE YOU HERE FOR THE DEPOSITION OF
6 FARHAD MIRBOD?

7 A. YES.

8 Q. SO, IN THAT DEPOSITION, YOU HEARD FARHAD MIRBOD
9 TESTIFY THAT, WELL, SOMEONE DID IT, I DON'T KNOW WHO, BUT I'M
10 SURE IT TOOK A LOT OF EFFORT; DO YOU REMEMBER THAT TESTIMONY?

11 A. YEAH, HE DIDN'T WORK FOR INDIGO DURING THE TIME IT
12 WAS ORIGINALLY DESIGNED.

13 Q. OKAY. AND -- AND YOU'VE NOT SEEN A SINGLE DOCUMENT,
14 A SINGLE BIT OF TESTING, WHICH SHOWED THAT HARD WORK OR
15 DEVELOPMENT OR TESTING, HAVE YOU?

16 A. YEAH, I MEAN, I'VE SEEN PIECES OF IT. I'M NOT SURE
17 WHAT YOU'RE LOOKING FOR THERE.

18 Q. RIGHT. YOU'VE NOT SEEN TESTING AND QUALIFIES OF THE
19 MECHANICAL ISOLATION, RIGHT?

20 A. YEAH, I'VE SEEN LOTS OF DOCUMENTS SPEAKING TO IT.
21 I'M NOT -- I'M NOT SURE WHAT YOU'RE LOOKING FOR.

22 Q. YOU HAVEN'T SEEN ANYTHING BACK IN 1999, TRUE?

23 A. WELL, 1999 WAS THE BEGINNING OF THAT.

24 Q. RIGHT. YOU DIDN'T -- YOU HAVEN'T SEEN ANY DOCUMENTS
25 EVIDENCING THAT DEVELOPMENT THAT YOU'RE CLAIMING BACK IN 1999?

1 A. I -- I'M LOSING TRACK OF -- OF, RIGHT NOW, TO THE
2 TIME LINE BETWEEN '99 AND 2000. IT TOOK THEM A FAIRLY
3 SIGNIFICANT AMOUNT OF TIME. I CAN'T REMEMBER IF IT SPANNED
4 1999 AND 2000, BUT THERE WERE SEVERAL DOCUMENTS THAT SHOWED
5 SOME OF THE THING THAT THEY DID.

6 Q. RIGHT. AND ONE OF THE DOCUMENTS YOU PUT UP ON THE
7 SCREEN, YOU SHOWED A -- A DX 526 WHICH WAS A PATENT THAT SHOWED
8 SOME OF THE DRUMBEAT, TRUE?

9 A. YEAH -- YES.

10 Q. AND THAT SHOWS THE PROBLEM, RIGHT? IT IDENTIFIES THE
11 PROBLEM OF DRUMBEAT, TRUE?

12 A. THERE WERE TWO PATENTS THAT WERE SHOWN. I'M SORRY, I
13 DON'T KNOW THEM BY THE -- BY THE DOCUMENT NUMBERS. IF YOU
14 COULD PROVIDE THAT, THAT'D BE GREAT.

15 Q. WELL, NEITHER OF THOSE PATENTS SHOWED THE SOLUTION.
16 THEY JUST SHOWED THE PROBLEM, RIGHT?

17 A. WELL, ONE OF -- ONE OF THE -- OF THE PATENTS SHOWED
18 A -- THE USE OF A GAP, WHICH I WOULD CALL A SOLUTION.

19 Q. BOTH OF THEM IDENTIFIED DRUMBEAT AS -- AS THE ISSUE
20 TO BE RESOLVED, TRUE?

21 A. YES.

22 Q. AND BOTH OF THEM SHOW -- AND YOU -- I BELIEVE YOUR
23 TESTIMONY WAS THAT THE PROBLEM WAS OBVIOUS, RIGHT?

24 A. YES.

25 Q. THE SOLUTION, HOWEVER, WAS NOT OBVIOUS. IN FACT, YOU

1 WERE HERE FOR MR. LOUNG'S TESTIMONY, TRUE?

2 A. NO, ACTUALLY, I WASN'T.

3 Q. YOU WERE ABSENT FOR THAT TESTIMONY?

4 A. I WAS ABSENT, YEAH.

5 Q. WELL, MR. LOUNG TESTIFIED THAT IT -- HE WAS ABLE TO

6 ATTENUATE THE PROBLEM BUT NOT SOLVE IT, AND THAT'S THE ISSUE.

7 THE PROBLEM MIGHT BE OBVIOUS, BUT THE SOLUTION IS OFTEN NOT

8 OBVIOUS, TRUE?

9 A. YEAH, THAT'S -- THAT'S PRETTY WELL TRUE. ICC WROTE A

10 PAPER IN '92 ON THAT GENERAL SUBJECT, AND THE -- BUT THERE WERE

11 SOME TECHNICAL ISSUES RELATED TO THE TRANSFER OF THE HEAT TO

12 THE COLD TIP, AND ONCE THAT WAS UNDERSTOOD, THEN THE SOLUTION,

13 I THINK, BECAME OBVIOUS.

14 Q. SURE, THAT'S -- THAT'S ALWAYS THE ISSUE. THE ISSUE

15 IS ALWAYS THE TECHNICAL ISSUES, ISN'T IT?

16 A. SURE.

17 Q. SURE. ONCE YOU'RE EXPERIENCING A PROBLEM, THE

18 PROBLEM IS OBVIOUS ONCE YOU'VE HAD IT, RIGHT?

19 A. YEAH.

20 Q. IT'S THE SOLUTION THAT TAKES A LONG TIME TO SOLVE,

21 TRUE?

22 A. SOMETIMES YES, SOMETIMES NO.

23 Q. LET'S TALK FOR A SECOND ABOUT TRADE SECRET NUMBER 6,

24 ALUMINUM NITRIDE FOR MECHANICAL ISOLATOR PLATFORM. DO YOU

25 RECALL THAT VU NGUYEN SPECIFIED THE USE OF ALUMINUM NITRIDE FOR

1 THE PLATFORM IN 2000, TRUE?

2 A. YES.

3 Q. AND YOU RECALL SEEING DOCUMENTS FROM ANDREW SHARPE

4 AND FARHAD MIRBOD TALKING ABOUT ALUMINUM NITRIDE FOR THE

5 MECHANICAL ISOLATOR?

6 A. YEAH THAT WAS MUCH LATER.

7 Q. RIGHT. SO THE FIRST TIME YOU SEE IT SPECIFIED IS

8 BACK IN 2000, TRUE?

9 A. I THINK SO, YEAH.

10 Q. AND THEN YOU SEE FARHAD MIRBOD AND ANDREW SHARPE

11 TALKING ABOUT ALUMINUM NITRIDE AS THE ISOLATOR, BUT THAT COMES

12 ALONG LATER?

13 A. YES.

14 Q. AND YOU UNDERSTAND THAT VU NGUYEN, FARHAD MIRBOD,

15 ANDREW SHARPE, THEY'RE ALL FORMER RAYTHEON FOLKS, TRUE?

16 A. YES.

17 Q. LET'S TALK ABOUT TRADE SECRET NUMBER 7 FOR A MOMENT,

18 USE OF CERTAIN MATERIALS TO CONTROL STRAY LIGHT. I BELIEVE YOU

19 TESTIFIED EARLIER TODAY THAT THERE WERE THREE COMPONENTS TO

20 THIS TRADE SECRET; DO YOU RECALL THAT?

21 A. YES.

22 Q. AND DO YOU RECALL THAT WAS -- WELL, HOW DID YOU

23 DESCRIBE THE THREE COMPONENTS? LET ME MAKE SURE I GET IT

24 RIGHT?

25 A. OKAY. THE USE OF A COLDSHIELD WITH A SKIRT OVER A

1 COLD -- I'M SORRY, OVER A COLDSHIELD RING, THE USE OF
2 INSB-FILLED ADHESIVE, AND THE USE OF BLACKENING ON THE INTERIOR
3 OF THE COLDSHIELD.

4 Q. OKAY. AND BACK WHEN YOU GAVE YOUR DEPOSITION, YOU
5 TESTIFIED THAT THERE WAS NO PUBLIC DOCUMENT THAT DESCRIBED THAT
6 SYSTEM, TRUE?

7 A. THE COMBINATION OF THOSE THINGS, THAT'S CORRECT.

8 Q. AND YOU ADMIT THAT VU NGUYEN REPORTED TECHNIQUES TO
9 MINIMIZE STRAY LIGHT IN HIS NOTEBOOK IN 2000, RIGHT?

10 A. YES.

11 MR. MCDOWELL: CAN WE SEE EXHIBIT 689, PLEASE?

12 Q. IN FACT, THIS IS AN EXAMPLE --

13 MR. MCDOWELL: YOU CAN PULL UP THE TO BE.

14 Q. THIS IS AN EXAMPLE FROM MR. NGUYEN'S NOTEBOOK
15 MINIMIZING LIGHT LEAK ON AN IR PACKAGE, TRUE?

16 A. YES.

17 Q. THIS IS PART OF WHAT YOU SAW?

18 A. YES.

19 Q. AND OVER ON THE TOP RIGHT CORNER YOU HAVE CAT-A-LAC
20 BLACK PAINT OR INSB; DO YOU SEE THAT?

21 A. YES, I DO.

22 Q. AND THAT'S PART OF THIS SYSTEM THAT YOU'VE DESCRIBED?

23 A. YES.

24 MR. MCDOWELL: THANK YOU, MR. RIENSTRA.

25 Q. WOULD YOU AGREE WITH ME -- I BELIEVE YOU WOULD AGREE

1 WITH ME THAT FOR TRADE SECRET NUMBER 14, THE PIECE-PART VACUUM
2 BAKE PROCESS, THAT THERE ARE NO PUBLIC DOMAIN DOCUMENTS
3 DISCUSSING THE CONCEPT OF A SEQUENTIAL BAKE AS OPPOSED TO A
4 FINAL PIECE-PART BAKE?

5 A. YEAH, THAT'S -- I THINK THAT THAT'S CORRECT.

6 Q. OKAY. AND AT THE -- AT THE TIME OF YOUR DEPOSITION,
7 YOU DIDN'T EVEN KNOW WHETHER INDIGO/FLIR DID A PIECE-PART BAKE,
8 RIGHT?

9 A. YEAH, THAT'S CORRECT, BECAUSE THE DISTINCTION BETWEEN
10 THE PIECE PART AND THE SEQUENTIAL WAS KIND OF LOST ON ME
11 BECAUSE THEY SEEMED LIKE THE SAME THING.

12 Q. YOUR TESTIMONY, I BELIEVE, WAS THAT YOUR
13 UNDERSTANDING WAS THAT RAYTHEON'S PIECE-PART VACUUM BAKE
14 PROCESS IS REALLY JUST A BREAKDOWN TO BAKE OUT CONTAMINANTS
15 BASED ON STEEL LIMITS, GOLD LIMITS, PAINT EPOXY LIMITS; IS THAT
16 ACCURATE?

17 A. THAT SOUNDS ABOUT RIGHT.

18 MR. MCDOWELL: OKAY. MAY WE SEE EXHIBIT 421,
19 PLEASE?

20 Q. AND I WANTED TO DIRECT US -- WELL, LET'S LOOK AT THE
21 FIRST PAGE JUST TO ORIENT US A LITTLE BIT. THIS IS A PACKAGING
22 OPERATIONS MAY 2005 OVERVIEW FOR INDIGO; DO YOU SEE THAT?

23 A. YES.

24 Q. THIS IS WHAT YOU -- THIS IS ONE OF THE DOCUMENTS THAT
25 YOU REVIEWED?

1 A. YES.

2 Q. OKAY.

3 MR. MCDOWELL: MR. RIENSTRA, I WANT TO GO
4 OVER -- I BELIEVE IT'S THE 23RD PAGE. IT'S A SECTION CALLED
5 FUNDAMENTAL PROCESSES. THERE. THANK YOU. AND I WANT TO GO
6 DOWN TO THE SECOND BULLET POINT. CAN YOU HIGHLIGHT THAT FOR
7 ME?

8 Q. AND THIS IS WHERE INDIGO DESCRIBES, AS A FUNDAMENTAL
9 PROCESS, A PIECE-PART VACUUM BAKE FOR THE STEEL LIMIT, GOLD
10 LIMIT, EPOXY AND PAINT LIMITS, RIGHT?

11 A. YES.

12 Q. THAT'S THE SAME THING WE JUST DISCUSSED FOR RAYTHEON,
13 RIGHT?

14 A. YEAH, I THINK SO.

15 Q. LET'S TALK ABOUT ALUMINA-FILLED EPOXY, ALUMINA
16 FILLED, I'M SORRY, AT 2216. I BELIEVE YOU TALKED -- WHEN YOU
17 WERE DISCUSSING 2216, THE NASA LOW OUTGASSING ADHESIVE
18 DATABASE; DO YOU RECALL THAT?

19 A. YES.

20 Q. AND THAT -- ARE YOU AWARE THAT AS OF 1996, THE
21 DATABASE CONTAINED 1,106 UNIQUE MATERIAL ENTRIES?

22 A. YEAH, THAT SOUNDS ABOUT RIGHT.

23 Q. OF WHICH 153 WERE FILLED WITH SOMETHING, TRUE?

24 A. YEAH. THE NUMBERS, I THINK, ARE MISLEADING BECAUSE A
25 LOT OF THEM ARE LISTED MULTIPLE TIMES.

1 Q. FOUR OF THE ADHESIVES WERE IDENTIFIED AS BEING FILLED
2 WITH ALUMINA, RIGHT?

3 A. YEAH, I DON'T RECALL THAT NUMBER, BUT THERE'S SOME,
4 CERTAINLY.

5 Q. BUT NONE OF THE FOUR WERE 2216, RIGHT?

6 A. THAT'S CORRECT.

7 Q. AND YOU, I BELIEVE, AGREE WITH ME THAT VU NGUYEN
8 TESTIFIED THAT HE SPECIFIED ALUMINA-FILLED 2216 IN 1999 ON THE
9 PHOENIX PRODUCT, RIGHT?

10 A. YES.

11 Q. LET'S TALK FOR A SECOND ABOUT MULTISOLVENT CLEANING.
12 WOULD YOU AGREE WITH ME THAT THERE ARE HUNDREDS OF AVAILABLE
13 SOLVENTS?

14 A. YEAH, I THINK IT'S LESS THAN THAT THAT ARE COMMON
15 USAGE.

16 Q. WOULD YOU AGREE WITH ME THAT THERE ARE A LOT OF
17 AVAILABLE SOLVENTS?

18 A. THERE ARE A LOT, SCORES.

19 Q. AND OF THE SCORES OF AVAILABLE SOLVENTS, COMPANIES
20 ARE FREE TO CHOOSE SOLVENTS THAT FALL WITHIN PARTICULAR
21 CATEGORIES, RIGHT?

22 A. YES.

23 Q. YOU'LL AGREE WITH ME THAT THERE'S NO DOCUMENTATION
24 THAT YOU'VE BEEN ABLE TO SEE TO BACK UP INDIGO/FLIR'S USE OF
25 TOLUENE, ACETONE, AND ISOPROPYL ALCOHOL, RIGHT?

1 A. YEAH. I DIDN'T FIND ANY AT RAYTHEON EITHER, BUT --

2 Q. AND YOU'LL AGREE WITH ME THAT THE DIFFERENCE BETWEEN
3 TAI, WHICH IS TOLUENE, ACETONE, ISOPROPYL ALCOHOL, AND ATI,
4 WHICH IS ACETONE, TOLUENE, ISOPROPYL ALCOHOL IS -- WE'RE JUST
5 FLIPPING THE ACETONE AND THE TOLUENE, RIGHT?

6 A. THAT'S WHERE THE -- THE LETTERS COME FROM, YEAH.

7 Q. IN YOUR DEPOSITION, BECAUSE YOU WERE RELYING ON
8 SPECIFIC THINGS WITHIN YOUR EXPERIENCE AT ICC, DO YOU RECALL
9 MR. CUNNINGHAM ASKING YOU WHAT ICC, SLASH, CRITICAL IMAGES,
10 SOLVENTS THEY USED?

11 A. YES.

12 Q. AND YOU REFUSED TO ANSWER THAT QUESTION?

13 A. ACTUALLY, I DIDN'T RECALL. I RECALLED TWO OF THEM
14 BUT NOT THE THIRD.

15 Q. BUT YOU -- BUT YOU REFUSED TO ANSWER THE QUESTION
16 BECAUSE YOU CONSIDERED IT TO BE PROPRIETARY?

17 A. I WAS THERE DEFENDING MY REPORT AND NOT AS A
18 CORPORATE REPRESENTATIVE FOR ICC.

19 Q. RIGHT, SO FOR -- WHILE YOU WERE HAPPY TO DISCLOSE A
20 LOT OF THINGS ICC DID, WHEN IT CAME TO THE SELECTION OF
21 SOLVENTS, YOU SAID, I'M NOT GOING TO ANSWER THAT QUESTION,
22 RIGHT?

23 A. YEAH, BUT I ALSO DIDN'T REMEMBER.

24 Q. BUT YOU DIDN'T SAY YOU DIDN'T REMEMBER AT YOUR
25 DEPOSITION. AT YOUR DEPOSITION, YOU SAID, I'M NOT GOING TO

1 ANSWER THAT QUESTION, RIGHT?

2 A. WELL, I -- I BELIEVE I DID SAY I DIDN'T REMEMBER THE
3 THIRD ONE.

4 Q. BUT YOU WOULDN'T -- YOU WOULDN'T DISCLOSE THE TWO YOU
5 DID REMEMBER, RIGHT?

6 A. WELL, IT JUST WASN'T -- THAT WASN'T MY -- I WASN'T
7 ICC.

8 Q. RIGHT --

9 A. I WORKED FOR CRITICAL IMAGING, FOR ONE THING.

10 Q. RIGHT, AND YOU DIDN'T DISCLOSE THEM BECAUSE YOU
11 CONSIDERED THAT TO BE PROPRIETARY?

12 A. I DIDN'T KNOW, AND SO I WAS ACTING OUT OF CAUTION.

13 Q. WELL, YOU DIDN'T KNOW ONE BUT YOU KNEW TWO, TRUE?

14 A. NO, I DIDN'T KNOW IF THEY WOULD CONSIDER IT
15 PROPRIETARY, AND SO -- SO I WAS ACTING OUT OF CAUTION.

16 Q. YOU DIDN'T KNOW IF THEY WOULD CONSIDER IT
17 PROPRIETARY, SO RATHER THAN JUST GOING AHEAD AND USING OR
18 DISCLOSING, YOU ERRED ON THE SIDE OF CAUTION AND SAID, I'M NOT
19 GOING TO TELL YOU THAT, CORRECT?

20 A. THAT IS CORRECT.

21 Q. AND YOU DID THAT EVEN THOUGH YOU DID TESTIFY THAT
22 THOSE SOLVENTS WERE COMMERCIALY AVAILABLE, RIGHT?

23 A. YES.

24 Q. SO THEY WERE COMMERCIALY AVAILABLE, BUT YOU BELIEVED
25 YOUR EMPLOYER MIGHT CONSIDER THAT TO BE PROPRIETARY SO YOU

1 REFUSED TO ANSWER THE QUESTION?

2 A. I JUST DIDN'T KNOW.

3 Q. LET'S TALK A LITTLE BIT ABOUT TRADE SECRET NUMBER 9,
4 STIFFENING ELEMENT TO CONTROL IMAGE PLANE MOTION. IT'S TRUE,
5 IS IT NOT, THAT YOU COULD NOT IDENTIFY ANY PUBLICLY AVAILABLE
6 DOCUMENT THAT TEACHED THE USE OF AN ALUMINUM NITRIDE ISOLATOR
7 BETWEEN THE COLDFINGER AND THE MOTHERBOARD?

8 A. YOU KNOW, I'M NOT SURE THAT THAT'S CORRECT.

9 Q. LET ME MAKE SURE THAT I'M NOT READING IT WRONG. IN
10 YOUR DEPOSITION BACK IN 2008, ON PAGES 354 AND 355,
11 MR. CUNNINGHAM ASKED YOU, CAN YOU POINT ME TO A SINGLE PUBLICLY
12 AVAILABLE DOCUMENT THAT TEACHES THE SINGLE USE OF AN ALUMINUM
13 NITRIDE ISOLATOR IN BETWEEN A METAL COLDFINGER AND AN ALUMINUM
14 MOTHERBOARD. YOUR ANSWER WAS, "I CAN'T. I DON'T SEEM TO SEE
15 AN EXAMPLE OF WHAT YOU SPECIFICALLY ASKED."

16 A. YEAH.

17 Q. DOES THAT HELP YOU?

18 A. YEAH.

19 Q. IN YOUR DEPOSITION BACK IN 2008, MR. CUNNINGHAM ALSO
20 ASKED YOU ABOUT THE ICC FPA COLLAR DESIGNS; DO YOU RECALL THAT?

21 A. YES, I DO.

22 Q. AND YOU ALSO REFUSED TO PROVIDE THE ICC FPA COLLAR
23 DESIGNS?

24 A. YEAH.

25 Q. AND YOU REFUSED TO DISCLOSE WHAT THE COLLAR WAS EVEN

1 MADE OF, RIGHT?

2 A. CORRECT.

3 Q. AND THAT'S BECAUSE IT WAS PROPRIETARY, CONSIDERED
4 PROPRIETARY BY YOUR EMPLOYER, TRUE?

5 A. I -- I DIDN'T KNOW THE ANSWER TO THAT QUESTION.

6 Q. OKAY. SO OUT OF AN ABUNDANCE OF CAUTION, BECAUSE
7 THAT KIND OF MATERIAL IS TYPICALLY WHAT'S TREATED AS
8 PROPRIETARY, YOU REFUSED TO DISCLOSE IT?

9 A. YEAH, I JUST DIDN'T KNOW, SO -- AND THAT WASN'T THE
10 PURPOSE I WAS THERE FOR.

11 Q. WELL, AND ICC CONSIDERS ITS FPA COLLAR DESIGN TO BE A
12 TRADE SECRET, DOESN'T IT?

13 A. WELL, IT WAS SOLD IN PRODUCT TO AMBER, BUT I THINK
14 BACK AT THAT TIME IN '96 THEREABOUTS, YES, I WOULD AGREE WITH
15 THAT.

16 Q. YOU WOULD AGREE THAT IN THE -- IN THAT TIME FRAME,
17 ICC CONSIDERED THE DESIGN OF ITS COLLAR TO BE A TRADE SECRET,
18 TRUE?

19 A. YEAH, I THINK THAT'S ACCURATE.

20 Q. AND THAT'S WHY YOU WOULDN'T DISCLOSE IT IN YOUR
21 DEPOSITION?

22 A. YEAH. I MEAN, I WASN'T THERE FOR THAT PURPOSE.

23 Q. WELL, YOU -- YOU CERTAINLY DISCLOSED OTHER ASPECTS OF
24 WHAT ICC DID IN ORDER TO SHOW YOUR EXPERIENCE OR WHY SOMETHING
25 WAS AVAILABLE OR UNAVAILABLE, TRUE?

1 A. WELL, BECAUSE THOSE OTHER THINGS WERE -- WERE -- WERE
2 DISCLOSED PREVIOUSLY.

3 Q. THOSE OTHER THINGS, ICC DIDN'T CONSIDER TO BE A TRADE
4 SECRET, BUT WITH RESPECT TO THE FPA COLLAR DESIGN, MULTISOLVENT
5 AND EPOXIES, ICC CONSIDERED THOSE TO BE TRADE SECRET AND
6 WOULDN'T DISCLOSE THEM?

7 A. THAT'S NOT CORRECT.

8 Q. YOU WOULDN'T DISCLOSE THE FPA COLLAR DESIGN AT YOUR
9 DEPOSITION, TRUE?

10 A. WELL, THAT WAS -- THAT WAS BECAUSE I -- THAT'S
11 BECAUSE I DIDN'T KNOW HOW THE -- HOW THE COMPANY WOULD TREAT
12 THAT, AND I WASN'T THERE AS A CORPORATE REPRESENTATIVE.

13 Q. LET'S GO BACK TO OUR -- OUR STRUT FOR A SECOND. I
14 REMEMBER SOME TESTIMONY THAT YOU GAVE ON DIRECT TALKING ABOUT
15 HOW THE ONLY STRUT THAT YOU'VE EVER SEEN IS AN S STRUT, AND I
16 BELIEVE YOU CHARACTERIZED THAT AS A SPRING; DO YOU REMEMBER
17 THAT?

18 A. YES.

19 MR. MCDOWELL: MR. RIENSTRA, MAY WE PLEASE HAVE
20 PX 1732. IGNORE SOME OF MY HIGHLIGHTING.

21 Q. MR. KNAUTH, THIS IS PX 1732. I WANT TO START BY JUST
22 GOING DOWN TO THE BOTTOM SO WE CAN ORIENT OURSELVES A LITTLE
23 BIT. THIS IS A RAYTHEON STRUT COLDFINGER, AND IF WE ZOOM IN A
24 LITTLE BIT, WE CAN SEE THE DATES. DO YOU SEE THE DATES THERE,
25 1998?

1 A. YES.

2 Q. WE CAN LOOK AT THE DRAWING AND WE CAN SEE THE DESIGN
3 OF THE DATE, TRUE?

4 A. YES.

5 Q. CAN WE ALSO SEE OVER THERE, MAY 28, 1998, THERE'S
6 ACTUALLY A STAMP ON IT RIGHT UNDERNEATH THAT SAYS PROPRIETARY,
7 RIGHT?

8 A. YES, IT DOES.

9 Q. OKAY. AND THEN IT'S GOT A DRAWING OF THE STRUT WITH
10 THE COLD FINGER, TRUE?

11 A. YES.

12 Q. AND -- AND THIS IS CONSISTENT, I BELIEVE, WITH YOUR
13 DESCRIPTION OF THE RAYTHEON STRUT, THAT IT HAS THE FOUR SIDE --
14 THE FOUR PIECES IN THE RING, TRUE?

15 A. YES.

16 Q. NOW, LET'S TAKE A LOOK AT PX 479. PX 479 IS AN
17 EXCERPT FROM THE NOTEBOOK OF VU NGUYEN; DO YOU SEE THAT?

18 A. YES, I DO.

19 Q. AND THAT WAS IN 2000, TRUE?

20 A. YES.

21 Q. THIS WAS AFTER HE WENT OVER TO INDIGO SYSTEMS FROM
22 AMBER, RIGHT?

23 A. YEAH.

24 Q. RIGHT? AND THIS WOULD BE ONE OF THE DOCUMENTS THAT
25 WE TALKED ABOUT A LITTLE EARLIER TODAY. WE TALKED ABOUT SEEING

1 SOME OF THE SYSTEM OF STRAY LIGHT FROM VU NGUYEN'S NOTEBOOK,
2 TRUE?

3 A. YES.

4 Q. GO OVER TO PAGE 3 OF THE NOTEBOOK. AND ON PAGE 3 OF
5 THE NOTEBOOK, WE HAVE A DRAWING BY MR. NGUYEN, AND THE TITLE
6 IS, STIFFENING COLDFINGER; DO YOU SEE THAT?

7 A. YES.

8 Q. AND WHEN -- WHEN HE DISCUSSES STIFFENING COLDFINGER,
9 HE HAS A STIFFEN -- A STIFFENER EDM CUT; DO YOU SEE THAT?

10 A. YES.

11 Q. AND -- AND THAT STRUT IS VERY SIMILAR TO THE STRUT WE
12 JUST LOOKED AT FROM RAYTHEON, IS IT NOT?

13 A. YEAH, IT'S A SIMILAR CONFIGURATION.

14 Q. AND YOU KNOW THAT VU NGUYEN WAS AT AMBER IN 1998,
15 TRUE?

16 A. YEAH. HE -- YEAH, HE LEFT RIGHT ABOUT THAT TIME.
17 I'M NOT SURE IF IT WAS LATE '97 OR BEGINNING OF '98, BUT
18 THERE'S A TIME PERIOD BETWEEN THESE.

19 Q. AND YOU HAD -- I'M SORRY, I DIDN'T MEAN TO CUT YOU
20 OFF.

21 A. NO, GO AHEAD, PLEASE.

22 Q. AND HE WENT OVER TO INDIGO, THEN DREW A VERY SIMILAR
23 STRUT TO WHAT HE HAD DRAWN AT AMBER, TRUE?

24 A. WELL, HE WORKED AT AN INTERMEDIATE COMPANY. THAT'S
25 THE POINT THAT I'M -- HE WORKED AT AN INTERMEDIATE COMPANY

1 BETWEEN THOSE TWO.

2 Q. SURE, BUT HE DIDN'T DRAW THE INTERMEDIATE COMPANY'S
3 STRUT. HE DREW THE RAYTHEON STRUT, RIGHT?

4 A. THEY'RE SIMILAR, BUT OBVIOUSLY ONE HAS THREE SPOKES
5 AND ONE HAS FOUR.

6 Q. LET'S ORIENT OURSELVES TO THIS DOCUMENT. THIS IS AN
7 INDIGO DOCUMENT, RIGHT?

8 MR. RENARD: COUNSEL, DO YOU HAVE AN EXHIBIT
9 NUMBER? BECAUSE I MAY WANT TO USE THIS.

10 MR. MCDOWELL: DEFENSE EXHIBIT 165.

11 MR. RENARD: THANK YOU.

12 Q. (BY MR. MCDOWELL) IT'S AN INDIGO DOCUMENT, TRUE?

13 A. YES.

14 Q. CALLED THE STIFFENER RING?

15 A. YEP.

16 Q. THE -- IF YOU LOOK AT THE STIFFENER RING THAT'S BEEN
17 DRAWN, THAT STIFFENER RING IS ALMOST IDENTICAL TO THE RAYTHEON
18 STIFFENER RING, TRUE?

19 A. YEAH, IF YOU COULD JUST STOP MOVING IT SO --

20 Q. I'M SORRY. I'M TRYING TO GET ALL FOUR OF THOSE
21 PICTURES ON THE SCREEN, AND I'M DOING A TERRIBLE JOB OF IT.
22 THAT'S WHAT HAPPENS WHEN YOU LET ME USE THIS. IT'S ALMOST --
23 IT'S ALMOST IDENTICAL, TRUE?

24 A. YOU KNOW, THERE'S A LOT OF DIFFERENCES HERE. ONE IS
25 IT'S -- ONE IS TWICE AS THICK AS THE OTHER. THAT'S A HUGE

1 DIFFERENCE.

2 Q. AND THIS INDIGO STRUT, THAT'S NOT AN S STRUT, IS IT?

3 A. NO, THAT PARTICULAR ONE ISN'T.

4 Q. AND THAT -- THIS STIFFENER RING IS VERY SIMILAR TO
5 THE ONE THAT VU NGUYEN DREW IN HIS NOTEBOOK, RIGHT?

6 A. WELL, IT'S GOT FOUR SPOKES VERSUS THREE. I DON'T
7 KNOW WHERE THAT GOES, THOUGH. I WAS NEVER ABLE TO DETERMINE
8 THAT.

9 Q. WELL, EVEN IF IT DOESN'T GO ANYWHERE, IT'S A
10 DISCLOSURE OF RAYTHEON'S TRADE SECRET, RIGHT?

11 A. I -- I WOULDN'T MAKE THAT CONCLUSION.

12 Q. I THINK THE LAST TRADE SECRET YOU TALKED ABOUT WAS
13 TRADE SECRET NUMBER 30. DO YOU RECALL THAT?

14 A. YES.

15 Q. IT WAS A -- IT WAS A PACKAGING TRADE SECRET, RIGHT?

16 A. YES.

17 Q. AND -- AND I BELIEVE YOU TALKED ABOUT AND MADE A
18 REALLY BIG DEAL OF THIS IN SITU PROCESS AND SEQUENCE INVOLVING
19 WHEN THE GETTER GETS FIRED, RIGHT?

20 A. YES.

21 Q. AND YOU SAID THAT RAYTHEON INVOLVES ACTIVATING THE
22 GETTER BEFORE THE TOP AND THE BOTTOM OF THE PACKAGE ARE
23 SOLDERED OR SEALED AND INDIGO DOES -- DOES IT ONCE IT'S SEALED,
24 RIGHT?

25 A. YES.

1 Q. AND -- AND YOU MADE A BIG DEAL OUT OF IT. YOU HAD
2 A -- YOU HAD THE ILLUSTRATION OF A PLASTIC BAG AND A SPONGE,
3 RIGHT?

4 A. YES.

5 Q. WERE YOU HERE FOR THE TESTIMONY OF STEVE BLACK?

6 A. YES, I WAS.

7 Q. OKAY. SO, THEN, YOU WOULD HAVE HEARD MR. BLACK
8 TESTIFY DURING THE TRIAL -- AND I'M GOING TO BRING YOUR
9 ATTENTION -- OKAY. NOW, THE IN SITU PROCESS AND SEQUENCE THAT
10 RAYTHEON CLAIMS IS A TRADE SECRET INVOLVES ACTIVATING THE
11 GETTER BEFORE THE TOP AND THE BOTTOM OF THE PACKAGE ARE
12 SOLDERED OR SEALED TOGETHER, CORRECT? DO YOU SEE THAT
13 QUESTION?

14 A. I SEE IT.

15 Q. THAT WAS EXACTLY THE POINT YOU WERE TRYING TO MAKE,
16 RIGHT? THAT WAS THE POINT YOU WERE TRYING TO MAKE TO THE JURY,
17 RIGHT?

18 A. YES, I DID TRY TO MAKE THAT POINT.

19 Q. AND THEN MR. BLACK TESTIFIED, I DON'T BELIEVE SO. DO
20 YOU SEE THAT?

21 A. I SEE IT.

22 Q. AND THEN QUESTION, "WELL, THAT'S HOW RAYTHEON DOES
23 IT, THOUGH, DOESN'T IT?" MR. BLACK: "NO, IT'S NOT HOW WE DO
24 IT." QUESTION, "YOU DON'T FIRE THE GETTER BEFORE YOU FORM THE
25 PACKAGE FOR PERMANENT SEAL?" MR. BLACK: "NO." "YOU'RE

1 ABSOLUTELY SURE ABOUT THAT?" "I'M ABSOLUTELY SURE."

2 DO YOU SEE THAT?

3 A. I SEE IT.

4 Q. ALL RIGHT. SO, REALLY, MR. BLACK TESTIFIED WHAT
5 RAYTHEON DID, AND THAT'S COMPLETELY CONTRARY TO YOUR TESTIMONY,
6 ISN'T IT?

7 A. I -- THE TESTIMONY I JUST READ, HE'S TESTIFYING TO
8 WHAT THEY DO, NOT WHAT THEY DID.

9 Q. AND WHEN YOU MADE THAT DISCUSSION WITH THE JURY, THE
10 PLASTIC BAGS AND THE SPONGES, YOU DIDN'T MAKE THAT DISTINCTION,
11 DID YOU?

12 A. I'M SORRY, I DON'T UNDERSTAND THE QUESTION.

13 Q. YOU DIDN'T MAKE ANY DISTINCTION WITH THE JURY ABOUT
14 TIMING AND WHEN SOMETHING WAS DONE AND HOW IT WAS DONE. YOU
15 JUST TOLD THE JURY THAT RAYTHEON DOES IT ONE WAY AND INDIGO
16 DOES IT ANOTHER WAY; ONLY THAT'S NOT THE ACTUAL WAY RAYTHEON
17 DOES IT, RIGHT?

18 A. I WROTE A REPORT BASED UPON DOCUMENTS THAT I WAS
19 GIVEN AS OF 2008. THERE WERE SOME ADDITIONAL DOCUMENTS AFTER
20 THAT LAST YEAR, BUT 2008 IS THE BULK OF IT, SO THERE'S A MOMENT
21 IN TIME WHERE I'M LOOKING AND FOR THE DEVELOPMENT OF THE INDIGO
22 PROCESS THAT WAS PERFORMED, AND BASED ON THE DOCUMENTS THAT I
23 REVIEWED, I DISAGREE WITH THAT STATEMENT. THEY MAY DO
24 SOMETHING ELSE TODAY. I SIMPLY DON'T KNOW.

25 Q. YOU WOULD THINK MR. BLACK WOULD BE IN A BETTER

1 POSITION TO DESCRIBE WHAT RAYTHEON DOES THAN YOU DO -- THAN YOU
2 ARE, RIGHT?

3 A. I ABSOLUTELY THINK THAT, YEAH.

4 Q. I DON'T BELIEVE IN YOUR TESTIMONY EARLIER TODAY WHEN
5 YOU DESCRIBED -- IS IT CRITICAL IMAGE; IS THAT THE COMPANY'S
6 NAME NOW?

7 A. THAT'S CORRECT.

8 Q. CRITICAL IMAGE AND/OR ICC HAS ACTUALLY DONE SOME WORK
9 WITH INDIGO AS A CONSULTANT IN THE PAST, TRUE?

10 A. I DON'T RECALL ANY WORK AS A CONSULTANT.

11 Q. DID IT DO WORK AS A VENDOR FOR INDIGO OR FLIR?

12 A. THERE WAS A -- THERE WAS A CONTRACT THAT I HEARD
13 ABOUT THAT WAS NEVER COMPLETED. THAT IS, IT WAS CANCELED
14 BEFORE ANY WORK WAS DONE.

15 Q. OKAY. AND -- AND IF YOU HAD YOUR WAY, ICC/CRITICAL
16 IMAGE WOULD LIKE TO DO WORK WITH INDIGO/FLIR IN THE FUTURE,
17 RIGHT?

18 A. I DON'T SEE THAT AS A POSSIBILITY.

19 Q. HOW MANY HOURS HAVE YOU WORKED ON THIS PARTICULAR
20 MATTER?

21 A. I DON'T KNOW. I DON'T RECALL.

22 Q. WHAT'S YOUR HOURLY RATE?

23 A. IT'S \$400 AN HOUR.

24 Q. SO, FOR EVERY HOUR THAT YOU'VE BEEN SITTING IN THE
25 COURTROOM OVER THE PAST MONTH, YOU'VE CHARGED INDIGO/FLIR \$400

1 AN HOUR?

2 A. THAT'S CORRECT.

3 Q. YOU CHARGED THEM \$400 AN HOUR FROM THE TIME YOU WERE
4 RETAINED BACK IN 2008 THROUGH 2014?

5 A. THAT'S CORRECT.

6 Q. WHAT'S THE TOTAL AMOUNT YOU'VE BILLED THEM?

7 A. I SIMPLY DON'T KNOW THAT.

8 Q. WOULD IT BE HUNDREDS OF THOUSANDS OF DOLLARS, TRUE?

9 A. PROBABLY.

10 Q. IS THAT YOUR COMPANY BILLING THEM, OR IS THAT
11 JONATHAN KNAUTH BILLING THEM?

12 A. THAT'S MYSELF.

13 Q. OKAY. SO, YOU, INDIVIDUALLY, IN ADDITION TO THE
14 SALARY AND INCOME YOU MAKE WITH YOUR OTHER BUSINESS, YOU
15 INDIVIDUALLY ARE GETTING PAID HUNDREDS OF THOUSANDS OF DOLLARS
16 TO WRITE A REPORT AND TESTIFY IN THIS CASE?

17 A. YEAH, I -- I DON'T SIMULTANEOUSLY DO THOSE TWO
18 THINGS.

19 Q. BUT YOU'VE DONE THEM BOTH OVER THE SAME PERIOD OF
20 TIME?

21 A. YES.

22 MR. MCDOWELL: MAY I CONSULT WITH MY COLLEAGUES
23 FOR JUST A MOMENT?

24 YOUR HONOR, I'LL PASS THE WITNESS.

25 THE COURT: ALL RIGHT. MR. RENARD?

1 MR. RENARD: YES, YOUR HONOR, THANK YOU.

2 REDIRECT EXAMINATION OF JONATHAN KNAUTH

3 BY MR. RENARD:

4 Q. MR. KNAUTH, IF ONE WERE TO SUGGEST THAT THE WORK
5 YOU'VE DONE AND THE OPINIONS YOU'VE REACHED IN THIS CASE IS
6 BASED UPON THE FACT THAT YOU HAVE CHARGED AN HOURLY RATE, WHAT
7 WOULD YOU SAY TO THAT INSINUATION?

8 A. I WOULD SAY THAT THAT'S NONSENSE.

9 Q. AND IN FACT, ARE YOU AWARE BY READING THE REPORTS OF
10 MR. GINN AND MR. HOLCOMBE THAT THEY TOO ARE CHARGING BY THE
11 HOUR?

12 A. YES, THEY ARE.

13 Q. AND DO YOU RECALL THEM TALKING ABOUT ALL THE HOURS
14 THAT THEY'VE SPENT ON THIS CASE, CORRECT?

15 A. YES, I DO.

16 Q. AND IN TERMS OF WHO'S SPENT MORE HOURS, YOU WOULD BE
17 UNABLE TO SAY WHETHER IT'S YOU OR MR. GINN OR MR. HOLCOMBE OR
18 EVEN MR. SIMMONS, CORRECT?

19 A. IT WOULD BE A GUESS.

20 Q. AND IN FACT, I'M GLAD WE RAISED THE SUBJECT BECAUSE
21 LET ME JUST ASK YOU, IS YOUR COMPENSATION IN ANY WAY BASED UPON
22 THE OUTCOME OF THIS LAWSUIT?

23 A. NO.

24 Q. IS YOUR COMPENSATION IN ANY WAY OR HAS IT IN ANY WAY
25 BEEN BASED UPON THE OPINIONS THAT YOU'VE GIVEN OR THE

1 CONCLUSIONS THAT YOU'VE REACHED?

2 A. NO.

3 Q. HAVE YOU BEEN URGED OR PUSHED TOWARDS ANY PARTICULAR
4 CONCLUSION OR OPINION IN THIS CASE?

5 A. NO.

6 Q. LET'S GO BACK, SIR, TO THE VERY BEGINNING, AND LET ME
7 JUST MAKE CLEAR. HAVE YOU HELD YOURSELF OUT AS AN EXPERT IN
8 THE TECHNOLOGY THAT'S AT ISSUE IN THESE SO-CALLED TRADE
9 SECRETS, OR ARE YOU HOLDING YOURSELF OUT AS AN ISSUE IN THE
10 CHRONOLOGY AND TIME LINE OF WHEN PEOPLE LEFT WHAT COMPANY AND
11 DID WHAT?

12 A. THE TECHNOLOGY, CERTAINLY.

13 Q. YES, SIR. WITH RESPECT TO ALL OF THESE SO-CALLED
14 TRADE SECRETS, WHETHER OR NOT THEY'RE TRADE SECRETS AND WHETHER
15 OR NOT THEY'VE BEEN STOLEN, ARE THERE ALTERNATIVE WAYS OF DOING
16 THINGS WITH RESPECT TO EVERY ISSUE OR EVERY PROBLEM OR
17 ENGINEERING CHALLENGE THAT THOSE RELATE TO?

18 A. YES.

19 Q. AND HAVE YOU SEEN ANY EVIDENCE IN THIS CASE,
20 MR. KNAUTH, AS TO WHETHER THESE WAYS OF DOING THINGS ARE
21 QUANTIFIABLY BETTER THAN THEIR ALTERNATIVES IN TERMS OF -- OF
22 IMAGE QUALITY, IN TERMS OF DEWAR PERFORMANCE, IN TERMS OF WHAT
23 THE CUSTOMER GETS WHEN THE CUSTOMER BUYS A CAMERA?

24 A. NO.

25 Q. AND THAT GOES FOR EACH AND EVERY ONE OF THESE?

1 A. YEAH. SOME WOULD MAKE IT WORSE.

2 Q. DO YOU RECALL THE SERIES OF QUESTIONS THAT COUNSEL
3 ASKED YOU ABOUT WHETHER OR NOT YOU GAVE AN OPINION WHETHER
4 CERTAIN TRADE SECRETS WERE THE FULL EMBODIMENT OR IN THE PUBLIC
5 DOMAIN?

6 A. YES.

7 Q. LET ME ASK YOU, SIR. YOU HAVE TESTIFIED, HAVE YOU
8 NOT, OR TELL US, WERE CERTAIN ELEMENTS, PARTS, PIECES, ASPECTS
9 OF THESE TRADE SECRETS IN THE PUBLIC DOMAIN?

10 A. YES, ABSOLUTELY.

11 Q. AND YOU'VE TESTIFIED ABOUT THAT ALREADY, CORRECT,
12 SIR?

13 A. YES.

14 Q. NOW, DOES THE FACT -- CAN YOU TELL US WHETHER OR NOT
15 THE FACT THAT ASPECTS OR PIECES OF THESE SO-CALLED TRADE
16 SECRETS WERE IN THE PUBLIC DOMAIN, WHETHER THAT AFFECTS YOUR
17 CONCLUSIONS ABOUT, FOR INSTANCE, THE OBVIOUSNESS OF THESE TRADE
18 SECRETS TO THE EXTENT THAT YOU SAID THAT THEY'RE OBVIOUS? DO
19 THE FACT THAT BITS AND PIECES MAY BE IN THE PUBLIC DOMAIN, DOES
20 THAT AFFECT YOUR OPINION AS TO OBVIOUSNESS?

21 A. YES.

22 Q. IN WHAT WAY?

23 A. WELL, IT -- IT SUGGESTS SOLUTIONS ON THESE PROBLEMS.

24 Q. LET'S TALK BRIEFLY, AND I WILL BE BRIEF, WITH RESPECT
25 TO THE TRADE SECRETS THAT COUNSEL WANTED TO COVER WITH YOU.

1 GOLD SILVER WIRE. DID YOU SEE ANY EVIDENCE IN YOUR REVIEW OF
2 THE RAYTHEON DOCUMENTS THAT THERE WAS ANY TESTING DONE OR
3 EXPERIMENTS DONE ON OTHER RATIOS OF GOLD TO SILVER OTHER THAN
4 75/25, LIKE 60/40, LIKE 30/70, LIKE 80/20, ANY OTHER
5 FORMULATION OR COMPOSITION RATIO OTHER THAN 75/25?

6 A. NO, NOT AT ALL.

7 Q. AND IN FACT, DID YOU SEE ANY RESEARCH REGARDING THE
8 COMPOSITION, ONE WAY OR THE OTHER, OF GOLD AND SILVER?

9 A. NO.

10 Q. AND, SIR, YOU TESTIFIED EARLIER, AS I RECALL, IN
11 DIRECT EXAMINATION ABOUT -- AND I'M JUST TRYING TO TAKE US BACK
12 IN PLACE, LOOKING AT TWO WIRES AND COMING UP WITH GOLD-SILVER?

13 A. YES.

14 Q. DID YOU SEE DOCUMENTS THAT, IN FACT, SHOWED THAT VERY
15 THING YOU TESTIFIED TO? IN OTHER WORDS, THAT IT WAS A -- A
16 LOOK TO SEE WHICH OF THE TWO WIRES WERE BETTER PERFORMING
17 BETWEEN GOLD AND GOLD-SILVER?

18 A. YES.

19 MR. RENARD: MR. STEPANEK, COULD WE PULL UP,
20 BRIEFLY, PLAINTIFF'S EXHIBIT 165? AND IF WE COULD GO TO THE
21 PAGE THAT ENDS IN BATES NUMBER 938. I BELIEVE THAT'S IT. OKAY
22 AND IF WE COULD JUST START, MR. STEPANEK, WITH ENLARGING THE
23 SECOND PARAGRAPH.

24 Q. SIR, JUST TO ORIENT OURSELVES, THIS IS AN INTERNAL
25 MEMORANDUM AT RAYTHEON DATED APRIL 7, 1998, AND DO YOU SEE,

1 SIR, THE REFERENCE -- AND IS THIS ONE OF THE DOCUMENTS THAT
2 YOU'RE REFERRING TO?

3 A. YES.

4 Q. AND DO YOU SEE THE REFERENCE THERE IN THE SECOND
5 SENTENCE, RIR COE, AND I BELIEVE THAT'S RAYTHEON COE BEING THE
6 CENTER OF EXCELLENCE?

7 A. YES.

8 Q. "CURRENTLY HAS TWO STANDARD INTERCONNECT PROCESSES,
9 GOLD WIRE AND CUSTOM FFO'S." DO YOU SEE THAT?

10 A. YES.

11 Q. AND IS THAT YOUR UNDERSTANDING BASED ON YOUR
12 INVESTIGATION?

13 A. YES.

14 Q. FFO'S REFERS TO THAT FLEXIBLE FAN-OUT?

15 A. CORRECT.

16 Q. THAT'S THAT LITTLE RIBBON WIRE?

17 A. THAT'S THAT LITTLE TAPE WITH WIRES ON IT.

18 Q. AND YOU UNDERSTAND THAT THIS WAS THE RAYTHEON
19 STANDARD AT THE TIME?

20 A. YES.

21 MR. RENARD: THEN IF WE COULD GO BACK TO THE
22 DOCUMENT IN FULL AND ENLARGE -- PAGE 938. AND JUST LOOK AT THE
23 SECOND AND THIRD -- SECOND AND THIRD TO LAST PARAGRAPHS THERE.

24 Q. OKAY. SIR, DO YOU SEE THE REFERENCE TO CURRENTLY THE
25 2460 WIREBONDING MACHINE IS THE ONLY AUTOMATIC EQUIPMENT THAT

1 RIR COE EMPLOYEES; DO YOU SEE THAT?

2 A. YES.

3 Q. AND DOES THAT RELATE TO WHAT YOU TOLD THE JURY IN
4 YOUR DIRECT EXAMINATION?

5 A. YES.

6 Q. AND THEN THE NEXT STATEMENT IS, THIS MACHINE CAN
7 ACCOMMODATE GOLD WIRE, FFO'S AND THE GOLD-SILVER ALLOY WIRE.
8 ARE YOU AWARE OF ANY OTHER WIRES THAT RAYTHEON BELIEVED OR
9 THOUGHT COULD BE ACCOMMODATED WITH THE ONLY AUTOMATIC EQUIPMENT
10 THEY HAD AT THE TIME?

11 A. NO.

12 Q. AND THEN, SIR, IF WE THEN LOOK AT THE NEXT PARAGRAPH,
13 IT SAYS, "DESIGN ENGINEERING HAS PERFORMED EVALUATION OF THE
14 AVAILABLE OPTIONS AND HAS CONFIRMED THAT THE GOLD SILVER WIRE
15 IS THE MATERIAL THAT MEETS DESIGN ENGINEERING NEEDS FOR A LOW
16 HEAT LOAD, LOW ELECTRICAL RESISTANCE ALTERNATE TO THE TWO
17 EXISTING STANDARD OPTIONS." DO YOU SEE THAT?

18 A. YES.

19 Q. AND THE TWO EXISTING STANDARD OPTIONS WERE WHAT?

20 A. WERE GOLD WIRES AND FLEXIBLE FAN-OUTS.

21 Q. SO WHAT WERE -- WHAT WIRES WERE BEING LOOKED AT FOR
22 PURPOSES OF THIS \$75,000 EFFORT WITHIN RAYTHEON?

23 A. ONE, GOLD-SILVER.

24 Q. AND WHAT WAS THE PROBLEM -- WHAT WAS THE WIRE
25 STANDARD AT THE TIME?

1 A. IT WAS GOLD.

2 Q. AND I'M JUST CURIOUS, SIR, BECAUSE ONE COMPANY SPENDS
3 \$75,000 MAKING A DETERMINATION LIKE THIS, DOES THAT MEAN THAT
4 ALL INFRARED COMPANIES, BASED UPON YOUR EXPERIENCE, WOULD
5 REQUIRE THE SAME AMOUNT OF TIME TO FIGURE THAT OUT?

6 A. NO, WE'D PROBABLY DO THIS IN A COUPLE DAYS.

7 Q. AND IS THIS YOUR UNDERSTANDING OF THE WORK THAT WAS
8 DONE AT RAYTHEON TO COME UP WITH GOLD SILVER WIRE?

9 A. YES.

10 Q. LET'S MOVE QUICKLY. COUNSEL ASKED YOU ABOUT MR. VU
11 NGUYEN. YOU'RE FAMILIAR WITH HIM BY VIRTUE OF THE WORK THAT
12 YOU'VE LOOKED AT AND MATTERS YOU'VE LOOKED AT AND WORK YOU'VE
13 DONE IN THIS CASE?

14 A. YES.

15 Q. AND I THINK THE FIRST REFERENCE TO MR. NGUYEN WAS
16 WITH RESPECT TO ADHESIVES. MR. NGUYEN IS A -- A DOCTOR, IS HE
17 NOT, A PH.D.?

18 A. YES, HE HAS A PH.D.

19 Q. CAN YOU TELL THE JURY WHAT HE HAS A PH.D. IN?

20 A. IN MECHANICAL ENGINEERING. HIS DISSERTATION WAS ON
21 ADHESIVE BOND JOINTS.

22 Q. AND DID HE ALSO DO A MASTER'S THESIS?

23 A. YES, HE DID ON ADHESIVE BOND JOINTS STACK-UP OF THE
24 DIFFERENT COMPONENTS AND A -- IN AN INFRARED CAMERA, THE
25 DETECTOR, THE SUBSTRATE, AND SO FORTH.

1 Q. SO BOTH HIS MASTER'S THESIS AND HIS DOCTORATE
2 DISSERTATIONS WERE IN ADHESIVES?

3 A. YES, CORRECT.

4 Q. I WANT TO GO NEXT TO BACKSIDE AND EDGE METALLIZATION.
5 DO YOU RECALL COUNSEL ASKING YOU ABOUT DOING BACKSIDE
6 METALLIZATION BUT NOT EDGE?

7 A. THAT -- YES.

8 Q. NOW, TO REORIENT OURSELVES, WE ARE TALKING ABOUT THIS
9 ALUMINUM OXIDE SAPPHIRE MATERIAL, ARE WE NOT?

10 A. YES.

11 Q. AND CAN YOU TELL US, DOES LIGHT GO THROUGH THE
12 BACKSIDE BUT IS IT NOT POSSIBLE TO GO THROUGH THE EDGES?

13 A. OH, IT ABSOLUTELY CAN GO THROUGH THE EDGES.

14 Q. THAT WAS NO GREAT SECRET WITHIN THE ENGINEERING
15 COMMUNITY AND INFRARED COMMUNITY?

16 A. NO, I FIGURED THAT OUT VERY QUICKLY.

17 Q. AND WHY DID YOU DO BACKSIDE METALLIZATION BUT NOT
18 EDGE?

19 A. WELL, IT WAS JUST AN EXPENSE THING.

20 Q. IN TERMS OF SURFACE AREA?

21 A. YEAH. THERE'S --

22 Q. THE BACKSIDE COMPARED TO THE EDGE.

23 A. WELL, THE EDGE IS NOT VERY MUCH SURFACE AREA, AND ONE
24 OF THE THINGS YOU WANT TO DO IS MINIMIZE HEAT LOAD, RADIATION
25 HEAT LOAD, SO YOU WANT A LOT OF THINGS TO BE GOLD. THE BOTTOM

1 HAS A LOT OF AREA, THE EDGE DOESN'T.

2 Q. AND IF WE THINK OF A -- ALMOST LIKE A MICROSCOPE
3 SLIDE THAT HAS A LOT OF SURFACE AREA ON THE BOTTOM BUT MINIMAL
4 EDGE AREA, IS THAT A FAIR ANALOGY?

5 A. THAT'S A FAIR ANALYSIS.

6 Q. CAN YOU TELL US WHETHER OR NOT, IN YOUR OPINION,
7 IF -- IF METALLIZING THE BACKSIDE IS OBVIOUS, WOULD METALLIZING
8 THE EDGES BE, IF ONE WANTED TO DO THAT?

9 A. YES.

10 Q. DID YOU FEEL THE NEED TO METALLIZE THE EDGES?

11 A. YOU KNOW, I CALCULATED THAT EVERY NOW AND AGAIN TO
12 SEE IF IT REALLY MADE SENSE AND USUALLY IT DIDN'T.

13 Q. DO YOU RECALL COUNSEL TALKING ABOUT THIS MECHANICAL
14 ISOLATION AND THE FACT THAT TWO PATENTS POINTED OUT THE PROBLEM
15 BUT DIDN'T DELIVER A SOLUTION?

16 A. I REMEMBER THAT DISCUSSION, YES.

17 Q. WAS THAT -- WAS THAT STATEMENT CORRECT, THAT NEITHER
18 OF THOSE PATENTS DELIVERED A SOLUTION?

19 A. NO, I THINK ONE OF THEM ABSOLUTELY DELIVERED THE
20 SOLUTION.

21 MR. RENARD: COULD WE PULL UP DEFENDANTS'
22 EXHIBIT 526, PLEASE.

23 Q. SIR, AND I THINK WE'VE LOOKED AT THIS PATENT DURING
24 THE COURSE OF THIS CASE.

25 MR. RENARD: BUT IF WE COULD PULL BACK,

1 MR. STEPANEK, AND SEE THE FULL PICTURE.

2 Q. AND -- AND YOU'VE BEEN PRESENT IN THE COURTROOM WHEN
3 I HAVE QUESTIONED WITNESSES ABOUT THIS, HAVE YOU NOT?

4 A. YES.

5 Q. THAT RECTANGLE THERE, WHAT IS THAT AS YOU UNDERSTAND
6 THIS PATENT?

7 A. THAT'S A GAP.

8 Q. MECHANICAL ISOLATOR?

9 A. IT'S A GAP FOR PURPOSES OF MECHANICAL ISOLATION OF
10 THE DRUMHEADING PROBLEM FROM THE TOP OF THE COLDFINGER TO THE
11 LOWER --

12 Q. AND JUST TO BE SURE, SIR, WHY DON'T YOU TURN TO PAGE
13 4 OF THIS PATENT, AND THIS IS A 2000 PATENT, CORRECT?

14 A. YEP.

15 MR. RENARD: AND IF WE COULD GO DOWN TO THE VERY
16 BOTTOM LEFT-HAND COLUMN LAST, OH, EIGHT LINES OR SO. THAT'S
17 FINE RIGHT THERE.

18 Q. AND DO YOU SEE, SIR, THE REFERENCE TO A DEFORMATION
19 ISOLATOR THAT MECHANICALLY ISOLATES THE SENSOR ASSEMBLY FROM
20 DEFORMATION PULSES INTRODUCED AT THE END OF THE COLDFINGER?

21 A. YES.

22 Q. AND THAT MECHANICAL ISOLATION -- EXCUSE ME. NUMBER
23 5. THE MECHANICAL ISOLATION THAT'S REFERRED TO THERE IS A GAP?

24 A. YES.

25 MR. RENARD: WE CAN PULL THAT DOWN.

1 Q. DO YOU RECALL COUNSEL ASKING YOU ABOUT ALUMINUM
2 NITRIDE -- THIS IS NUMBER 6 -- AS USED FOR THE MECHANICAL
3 ISOLATOR PLATFORM?

4 A. YES.

5 Q. HOW MANY PATENTS DID YOU SEE IN THIS CASE -- STRIKE
6 THAT.

7 HOW MANY PATENTS HAVE YOU SEEN IN THIS TRIAL
8 THAT DESCRIBE ALUMINA NITRIDE AS A PLATFORM MATERIAL?

9 A. WELL, TWO THAT I CAN THINK OF IMMEDIATELY.

10 Q. DEFENDANTS 497 AND 520?

11 A. YEAH, AND I --

12 Q. THE TWO THAT WERE UP ON THE BOARD?

13 A. YES.

14 Q. LET'S TALK ABOUT PIECE-PART VACUUM, ANOTHER ISSUE
15 THAT MR. MCDOWELL COVERED WITH YOU. AND THE NOTION OF PIECE
16 PART AND SUBASSEMBLY AND FINAL BAKE. YOU -- YOU'VE TESTIFIED,
17 HAVE YOU NOT, THAT YOU YOURSELF WERE INVOLVED AT ICC IN SUCH
18 BAKING PROCESSES?

19 A. YES.

20 Q. AND JUST OUT OF CURIOSITY, BECAUSE I THINK IT WAS
21 DURING THE QUESTIONING ON THAT POINT THAT COUNSEL ASKED YOU
22 ABOUT PUBLIC DOMAIN LITERATURE, AND I WANT TO ASK YOU
23 SOMETHING, SIR. IN -- IN YOUR EXPERIENCE IN THE INDUSTRY --
24 AND I'M TALKING ABOUT YOUR SPECIFIC EXPERIENCE IN THE INFRARED
25 INDUSTRY -- DOES, IN YOUR OPINION, A PROCESS OR MATERIAL OR

1 METHOD HAVE TO BE DISCLOSED IN A PUBLISHED ARTICLE FOR IT TO BE
2 OBVIOUS?

3 A. NO.

4 Q. DOES IT HAVE TO BE INCLUDED IN A PUBLISHED ARTICLE
5 FOR IT TO BE SOMETHING THAT IS COMMONLY USED BY INFRARED
6 COMPANIES?

7 A. NO.

8 Q. LET'S TALK ABOUT THE MULTIPLE SOLVENT CLEANER. THE
9 FIRST, AS I RECALL, SEQUENCE AND SET OF SOLVENTS THAT YOU SAID
10 WERE BEING CLAIMED AS A TRADE SECRET WAS TAMI, CORRECT?

11 A. CORRECT.

12 Q. WHAT IS THE "M"?

13 A. METHANOL.

14 Q. AND YOU'RE AWARE THAT YOU -- DOES RAYTHEON CONTINUE
15 TO ASSERT THAT AS THEIR TRADE SECRET IN THIS CASE, INCLUDING
16 ALSO THE TAI PROCESS?

17 A. YES.

18 Q. CAN YOU TELL THE JURY WHETHER METHANOL HAS EVER BEEN
19 USED BY FLIR/INDIGO AS A SOLVENT FOR THESE PURPOSES?

20 A. IT'S NEVER BEEN USED BY THEM.

21 Q. AND YOU UNDERSTAND THAT THIS IS STILL BEING ASSERTED
22 IN THIS LAWSUIT?

23 A. YES.

24 Q. AND YOU TESTIFIED IN YOUR DIRECT EXAMINATION TO
25 WHAT -- WHAT SIGNIFICANCE HAS RAYTHEON ASCRIBED TO NOT ONLY THE

1 SPECIFIC SOLVENTS BEING USED BUT THE SEQUENCE, THE SPECIFIC
2 SEQUENCE, T THEN A THEN I?

3 A. THEY SAID THAT IT WAS CRITICAL.

4 Q. AND HAS INDIGO EVER USED TAI IN THAT SEQUENCE FOR THE
5 PURPOSES THAT ARE BEING CLAIMED IN THIS PURPORTED TRADE SECRET?

6 A. NO.

7 Q. LET'S TALK ABOUT THE STIFFENING AGENT. I'M SORRY,
8 THE STIFFENER. COUNSEL TALKED TO YOU ABOUT ALUMINUM NITRIDE;
9 DO YOU RECALL THAT AS A STIFFENING MATERIAL?

10 A. NO.

11 Q. WELL, DO YOU UNDERSTAND THAT RAYTHEON IS CLAIMING
12 ALUMINUM NITRIDE STIFFENER AS PART OF ITS ALLEGED TRADE SECRET?

13 A. NOT A STIFFENER.

14 Q. AND IN FACT, WHAT IS THE STIFFENER MADE OF THAT IS
15 USED BY INDIGO?

16 A. IT -- I BELIEVE THAT IT'S INCONEL. IT'S ONE OF THE
17 COLD FINGER MATERIALS SUCH AS INCONEL. THAT'S ANOTHER ONE.
18 IT'S A METAL.

19 Q. THEN SOME QUESTIONS WERE ASKED ABOUT YOU ABOUT THE
20 DESIGN OF THE STRUT OR STIFFENER; DO YOU RECALL THAT?

21 A. YES.

22 Q. AND DO YOU RECALL SEEING A DIAGRAM OF THE RAYTHEON
23 STRUT THAT WAS, I THINK, AS YOU DESCRIBED IT IN DIRECT
24 EXAMINATION, ESSENTIALLY CROSS HAIRS?

25 A. YES.

1 Q. AND DO YOU RECALL US TALKING IN YOUR DIRECT
2 EXAMINATION ABOUT THE FACT THAT INDIGO HAD A DRAWING THAT
3 SHOWED SOMETHING SIMILAR TO THOSE CROSS HAIRS?

4 A. YES.

5 Q. AND -- AND IN FACT, YOU SAW THAT ON THE SCREEN, DID
6 YOU NOT? IT WAS, I BELIEVE, DEFENDANTS' EXHIBIT 165?

7 A. YES.

8 Q. BUT WE ALSO TALKED ABOUT THE FACT -- AND LET ME JUST
9 ASK YOU AGAIN, DO YOU HAVE ANY EVIDENCE THAT THAT PARTICULAR
10 DESIGN WAS EVER USED IN PRODUCTION AT INDIGO/FLIR?

11 A. NO.

12 Q. AND THEN THERE WAS REFERENCE TO MR. NGUYEN'S DESIGN.
13 DID YOU RECALL THAT, KIND OF THE THREE STRUTS --

14 A. YEAH, KIND OF --

15 Q. -- ALMOST LIKE A MERCEDES BENZ LOGO?

16 A. -- A PEACE SIGN MAYBE.

17 Q. THAT IS NOT RAYTHEON'S DESIGN, IS IT?

18 A. NO.

19 Q. BUT IN ANY EVENT, HAVE YOU SEEN ANY EVIDENCE THAT
20 THAT THREE-STRUT DESIGN WAS EVER USED?

21 A. NO.

22 Q. AND IN FACT, ACCORDING TO YOUR RESEARCH, WHAT IS THE
23 DESIGN OF THE STIFFENER THAT -- AND THE ONLY DESIGN OF A
24 STIFFENER THAT HAS ACTUALLY BEEN USED BY INDIGO IN CONNECTION
25 WITH ITS DEWARS?

1 A. IT'S THE -- IT'S THE S SHAPE, WHICH IS NOT A STRUT
2 BUT A SPRING.

3 Q. AND REMIND US, IN WHAT PERCENTAGE OR IN THE OVERALL
4 GROUP OF ACCUSED PRODUCTS IN THIS CASE, HOW MANY OF THOSE
5 PRODUCTS EVEN USE THAT S SHAPE DIFFERENTLY CONFIGURED
6 STIFFENER?

7 A. ONE.

8 Q. ALL THE OTHERS HAVE THE RAYTHEON STRUT OR HAVE NO
9 STRUT AT ALL?

10 A. NO STRUT AT ALL.

11 Q. AS OF 2008, WHEN YOU DID YOUR REPORT IN RESPONSE TO
12 MR. GINN AND MR. HOLCOMBE'S REPORT, CAN YOU TELL US -- AND THIS
13 HARKENS BACK TO THE LAST SUBJECT THAT COUNSEL DEALT WITH YOU --
14 WHETHER OR NOT IN THE UNCOOLED MICROBOLOMETER PACKAGES, WHETHER
15 RAYTHEON FIRED THE GETTER BEFORE IT CLOSED THE PACKAGE FOR GOOD
16 OR AFTER?

17 A. THEY FIRED IT BEFORE THEY CLOSED THE GETTER FOR GOOD.

18 Q. AND THAT'S BASED UPON YOUR INVESTIGATION?

19 A. YEAH, CLOSED THE PACKAGE FOR GOOD.

20 Q. AND IN FACT, DO YOU HAVE ANY IDEA WHERE RAYTHEON GOT
21 THE IDEA OF FIRING THE GETTER AFTERWARDS LIKE INDIGO DID?

22 A. YEAH, I DON'T KNOW.

23 MR. RENARD: THAT'S ALL I HAVE, YOUR HONOR.
24 THANK YOU.

25 THE COURT: MR. MCDOWELL?

1 MR. MCDOWELL: MAY I HAVE JUST ONE SECOND, YOUR
2 HONOR?

3 THE COURT: YES.

4 MR. MCDOWELL: THANK YOU, YOUR HONOR.

5 RECROSS-EXAMINATION OF JONATHAN KNAUTH

6 BY MR. MCDOWELL:

7 Q. MR. KNAUTH, I BELIEVE YOU TESTIFIED THAT BACKSIDE
8 METALLIZATION WAS OBVIOUS; DO YOU RECALL THAT TESTIMONY?

9 A. YES.

10 Q. BUT I THINK YOU'LL ADMIT THAT WHEN YOU STARTED WITH
11 ICC BACK IN 1996, IT WASN'T OBVIOUS TO YOU, WAS IT?

12 A. YEAH, WITHIN THE FIRST COUPLE WEEKS OF JOINING.

13 Q. RIGHT, BECAUSE YOU DESIGNED A BACKSIDE AND IT DIDN'T
14 WORK, SO YOU HAD TO GO TO YOUR BOSS AND HE HAD TO TELL YOU
15 ABOUT METALLIZING THE BACKSIDE, RIGHT?

16 A. NO, THAT'S NOT CORRECT.

17 Q. BUT YOU ACTUALLY LEARNED THAT FROM YOUR COLLEAGUE.
18 THAT WASN'T SOMETHING THAT JUST CAME TO YOU ON YOUR FIRST DAY
19 OF WORK, RIGHT?

20 A. YEAH, THAT WOULD BE MISCHARACTERIZING IT, I THINK.

21 Q. YOU ADMIT THAT THE ORIGINAL DESIGN THAT YOU DID
22 DIDN'T WORK, YOU HAD -- YOU DIDN'T JUST FIGURE IT OUT. YOUR
23 BOSS TOLD YOU ABOUT METALLIZATION, RIGHT?

24 A. NO, I THINK THAT'S MISCHARACTERIZING AS WELL. THAT'S
25 NOT THE WAY THAT IT WENT DOWN.

1 Q. MR. RENARD SHOWED YOU A PATENT WITH RESPECT TO THE
2 ISOLATION GAP THAT WAS DX 526; DO YOU REMEMBER THAT?

3 A. YES, I DO.

4 Q. HE JUST SHOWED IT TO YOU, RIGHT?

5 A. YES.

6 Q. AND YOU'LL AGREE WITH ME THAT THAT PATENT DOESN'T
7 TEACH THE FULL EMBODIMENT OF TRADE SECRET NUMBER 5, MECHANICAL
8 ISOLATION, RIGHT?

9 A. YEAH, I -- I AGREE AS IT'S -- YEAH, I AGREE.

10 Q. AND LIKEWISE, HE SHOWED YOU A PATENT -- IN FACT, I
11 THINK HE TOLD YOU ABOUT SEVERAL PATENTS WITH ALUMINUM NITRIDE,
12 AND REGARDLESS OF HOW MANY DIFFERENT PATENTS YOU SAW THAT
13 MENTIONED AN ALUMINUM NITRIDE MATERIAL, NONE OF THOSE TAUGHT
14 THE FULL EMBODIMENT OF TRADE SECRET NUMBER 6, TRUE?

15 A. YEAH, YOU KNOW, THE HOLCOMBE-GINN REPORT SAYS
16 SPECIFIC THINGS ABOUT THAT THAT I THINK THAT DOES -- THEY SAID
17 SPECIFICALLY IT WAS NONOBVIOUS BECAUSE IT WAS DIFFICULT TO
18 MANUFACTURE. I THINK THAT THAT ANSWERS THAT QUESTION PRETTY
19 WELL.

20 Q. RIGHT, BUT THAT'S NOT REALLY MY QUESTION. MY
21 QUESTION WAS, MR. RENARD ASKED YOU ABOUT SEVERAL PATENTS, AND
22 YOU SAID, YES, I SAW ALUMINUM NITRIDE MENTIONED IN SEVERAL
23 PATENTS. BUT YOU HAVE TO AGREE WITH ME, DON'T YOU, THAT NONE
24 OF THOSE PATENTS TEACH THE FULL EMBODIMENT OF TRADE SECRET
25 NUMBER 6, RIGHT?

1 A. YEAH, I MEAN, AS HAS BEEN DESCRIBED OF THE WHOLE
2 ECOSYSTEM AND WORDS OF THIS EFFECT AND ALL KNOWLEDGE AND SO
3 FORTH, IT WOULD BE A PRETTY HARD TO SEE.

4 MR. MCDOWELL: OKAY, MR. RIENSTRA, MAY WE SEE
5 PLAINTIFF'S 165 FOR JUST A MOMENT.

6 Q. MR. KNAUTH, DO YOU REMEMBER MR. RENARD GOING OVER
7 PLAINTIFF'S 165 WITH YOU?

8 A. YES.

9 Q. OKAY. AND IT IS A GOLD SILVER WIRE PROCESS READINESS
10 REVIEW INPUT TO PROCESS OWNER, DO YOU SEE THAT?

11 A. YES.

12 Q. NOW, WHO'S THE AUTHOR OF PX 165?

13 A. ANDREW SHARPE.

14 Q. SO THAT WAS ANDREW SHARPE BACK WHEN HE WAS AT
15 RAYTHEON, RIGHT?

16 A. CORRECT.

17 Q. OKAY.

18 MR. MCDOWELL: MR. RIENSTRA, CAN WE GO TO PAGE
19 10, PLEASE?

20 Q. DO YOU RECALL MR. RENARD TELLING YOU THAT --
21 DISCUSSING WITH YOU THAT THE ONLY WIRE THEY WERE TALKING ABOUT
22 WAS THE GOLD SILVER WIRE; DO YOU RECALL THAT?

23 A. YEAH, THAT WAS THE OPTION THAT THEY HAD.

24 Q. ALL RIGHT.

25 MR. MCDOWELL: WOULD YOU BLOW UP RIGHT IN HERE,

1 MR. RIENSTRA. THERE YOU GO.

2 Q. AND AT THE TOP, IT GIVES THE -- IT GIVES SOME HISTORY
3 BACKGROUND; DO YOU SEE THAT?

4 A. YES.

5 Q. AND THE HISTORY/BACKGROUND SAYS, "SBRC HAS USED A
6 VARIETY OF DIFFERENT MATERIALS FOR INTERCONNECT PURPOSES ON
7 MICROELECTRONICS DEVICES. THOSE MATERIALS INCLUDE" -- AND IF
8 WE JUST READ DOWN THROUGH THAT, WE HAVE INSULATED GOLD WIRE,
9 RIGHT?

10 A. YEP.

11 Q. ALUMINUM WIRE, TRUE?

12 A. YEP.

13 Q. CONSTANTAN WIRE, RIGHT?

14 A. YES.

15 Q. CHROMEL WIRE?

16 A. YES.

17 Q. AND PLATINUM WIRE?

18 A. YEP.

19 Q. NICKEL RIBBON?

20 A. YES.

21 Q. COPPER WIRE, TRUE?

22 A. YES.

23 Q. SO, THIS REPORT IN THE HISTORY/BACKGROUND IS
24 SPECIFICALLY TALKING ABOUT DIFFERENT WIRES USED BY SBRC FOR
25 INTERCONNECT PURPOSES, RIGHT?

1 A. IT IS.

2 MR. MCDOWELL: YOU CAN TAKE THAT DOWN,

3 MR. RIENSTRA. MAY WE SEE EXHIBIT 277, PLEASE.

4 Q. EXHIBIT 277 IS AN INDIGO SYSTEMS INTELLECTUAL
5 PROPERTY RESEARCH LIST; DO YOU SEE THAT?

6 A. YES.

7 Q. UP AT THE TOP RIGHT-HAND CORNER, IT SAYS, ALL
8 SUBMITTED 1/21/2000; THAT'S ANDREW SHARPE, RIGHT?

9 A. YEAH, I RECALL THAT FROM TESTIMONY. I CAN'T TELL
10 THAT FROM LOOKING AT IT.

11 MR. MCDOWELL: OKAY. WOULD YOU GO TO PAGE 2,

12 MR. RIENSTRA. I WANT TO BLOW UP THE SECOND BIG BLOCK, 909487.

13 Q. AND MR. SHARPE IS ASKING NERAC WITHIN THIS FIRST 30
14 DAYS AT INDIGO TO LOCATE INFORMATION ON GOLD-SILVER ALLOY WIRE.
15 OF PARTICULAR INTEREST IS 75 PERCENT/25 PERCENT SILVER AND
16 APPLICATIONS THAT INCLUDE ULTRASONIC WIREBONDING, RIGHT?

17 A. YES.

18 Q. AND THAT'S EXACTLY WHAT WE WERE JUST LOOKING AT, WHAT
19 MR. SHARPE DID WHEN HE WAS AT RAYTHEON, RIGHT?

20 A. YES.

21 MR. MCDOWELL: I'LL PASS THE WITNESS, YOUR
22 HONOR.

23 MR. RENARD: I JUST HAVE ONE.

24 THE COURT: OKAY.

25 MR. RENARD: I'M SERIOUS, YOUR HONOR. IT WON'T

1 TAKE LONG AT ALL.

2 REDIRECT EXAMINATION OF JONATHAN KNAUTH

3 BY MR. RENARD:

4 Q. MR. KNAUTH, YOU SAW A REFERENCE THERE TO SEVERAL
5 DIFFERENT WIRES, CORRECT, THAT RAYTHEON WAS LOOKING AT?

6 A. THAT WAS A HISTORY, YEAH.

7 Q. BUT WHAT WAS THE INHIBITING FACTOR THAT RESULTED IN
8 THE QUALIFICATION COMING DOWN TO GOLD AND GOLD-SILVER?

9 A. THEY ONLY HAD ONE MACHINE, AND THEY DIDN'T HAVE ROOM
10 TO PUT ANOTHER ONE IN.

11 MR. RENARD: THAT'S ALL I HAVE, YOUR HONOR.

12 THANK YOU.

13 THE COURT: ANYTHING FURTHER?

14 MR. MCDOWELL: NO FURTHER QUESTIONS, YOUR HONOR.

15 THE COURT: ALL RIGHT. MR. RENARD?

16 MR. RENARD: NO, YOUR HONOR.

17 THE COURT: IS THIS WITNESS EXCUSED?

18 MR. RENARD: THIS WITNESS MAY BE EXCUSED.

19 MR. MCDOWELL: YES, YOUR HONOR.

20 THE COURT: OKAY. MR. KNAUTH, THANK YOU VERY
21 MUCH.

22 ALL RIGHT, LADIES AND GENTLEMEN, WE'VE BEEN IN
23 HERE A LITTLE OVER TWO HOURS, AND I KNOW WE HAD ABOUT A
24 27-MINUTE BREAK FOR ARGUMENTS AND SO YOU WENT OUT, BUT LET'S
25 TAKE A 15-MINUTE RECESS.

1 COURT SECURITY OFFICER: ALL RISE.

2 (JURY NOT PRESENT)

3 THE COURT: ALL RIGHT. WE'LL TAKE A 15-MINUTE
4 RECESS. LET'S SEE. ARE YOU GOING TO VISIT WITH CO-COUNSEL,
5 MR. RENARD, AND SEE WHERE YOU'RE GOING TO GO FROM HERE?

6 MR. RENARD: WELL, YOUR HONOR, WE'VE GOT A VERY
7 SHORT VIDEO.

8 THE COURT: OH, THAT'S RIGHT.

9 MR. RENARD: AND THEN I THINK WE'LL BE RESTING.

10 THE COURT: OKAY. OKAY. 15-MINUTE RECESS.

11 (A BREAK WAS TAKEN AT 4:00 P.M.)

12 (JURY NOT PRESENT)

13 THE COURT: OKAY. WHY DON'T WE GO AHEAD AND
14 RESUME. MR. RENARD, YOU'RE GOING PLAY THE DEPOSITION OF ROBERT
15 KLINE NOW?

16 MR. RENARD: YES, YOUR HONOR.

17 MR. SIEBMAN: ABOUT 10 MINUTES? UNDER TEN --
18 IT'S LIKE 8 MINUTES.

19 THE COURT: OKAY. ALL RIGHT. I HAVE A NOTE
20 FROM JUROR NUMBER 4. HE ASKS, WILL WE BE HERE FRIDAY? WORK
21 SCHEDULE. SO, I NEED TO VISIT WITH YOU ABOUT -- WELL, I'LL
22 JUST WAIT AND SEE. MR. RENARD'S GOING TO REST AFTER MR. KLINE.

23 DO THE PLAINTIFFS KNOW WHAT THEY'RE GOING TO DO?

24 MR. CUNNINGHAM: NO REBUTTAL.

25 THE COURT: OKAY. ALL RIGHT. IN THAT CASE, I

1 GUESS I COULD ASK YOU NOW, WHAT -- WHAT WAS THE OUTCOME OF YOUR
2 DISCUSSIONS AFTER OUR SATURDAY SESSION HERE AT THE COURTHOUSE
3 ON THE JURY INSTRUCTIONS?

4 MR. CUNNINGHAM: I THINK THE SHORT -- I THINK
5 THE SHORT ANSWER IS, NO -- NO AGREEMENT. I THINK DRAFTS HAVE
6 BEEN EXCHANGED AND -- BUT I DO BELIEVE THAT WE WILL NEED TIME
7 WITH YOU THIS AFTERNOON OR --

8 THE COURT: I DON'T THINK WE CAN -- IF THERE'S
9 NO AGREEMENT, WE STILL HAVE ALL THOSE OBJECTIONS TO GO THROUGH,
10 THEN I THINK WE'LL HAVE TO ARGUE THIS CASE ON FRIDAY. I DON'T
11 SEE ANY OTHER WAY.

12 MR. CUNNINGHAM: SO, TAKE TOMORROW TO DO THE
13 JURY CHARGE?

14 THE COURT: I THINK SO.

15 MR. SIEBMAN: YOUR HONOR, I THINK OUR TWO -- I
16 THINK -- OUR TWO LAWYERS THAT WE HAVE WORKING ON THE CHARGE, I
17 THINK, ARE TOGETHER NOW.

18 THE COURT: MAKE SURE SHE CAN HEAR YOU HERE.

19 MR. ROSE: I'LL GO FIND OUT.

20 THE COURT: YEAH. THE TWO LAWYERS WHO ARE
21 WORKING ON THE CHARGE ARE HERE? OKAY.

22 MR. SIEBMAN: RIGHT, AND I THINK THEY'RE
23 TOGETHER. THEY'RE NOT IN THE COURTROOM, BUT I THINK THEY'RE
24 TOGETHER TRYING TO WORK THINGS OUT. NOW, HOW MUCH PROGRESS
25 THEY'VE MADE -- I KNOW THERE'S GOING TO BE SOME ISSUES THAT

1 WE'RE NOT GOING TO AGREE ON, BUT I THINK THERE MAY BE A LOT OF
2 ISSUES THAT WE DO AGREE ON WITH RESPECT TO THE -- I SHOULD JUST
3 SAY, SOME OF THE ISSUES, I BELIEVE WE'LL AGREE.

4 THE COURT: YEAH, I JUST DON'T WANT TO BRING THE
5 JURY BACK AND TELL THEM TO COME BACK TOMORROW AND THEN THEY'RE
6 JUST SITTING IN THERE FOR HOURS AND HOURS. I THINK IT WOULD BE
7 BETTER TO BRING THEM BACK FRIDAY.

8 MR. SIEBMAN: PROBABLY SAFER, YOUR HONOR.

9 THE COURT: YEAH.

10 MR. CUNNINGHAM: YOUR CALL, YOUR HONOR. WE WERE
11 PLANNING ON CLOSING TOMORROW MORNING, BUT IT'S YOUR --

12 THE COURT: WELL, THERE HAS TO BE JURY
13 INSTRUCTIONS.

14 MR. CUNNINGHAM: ABSOLUTELY.

15 THE COURT: AND I HAVE A DRAFT THAT I GAVE YOU,
16 BUT -- AND IT'S ALL IN THE OTHER ROOM. I'LL HAVE TO BRING IT
17 BACK OUT HERE.

18 MR. CUNNINGHAM: UNDERSTOOD.

19 THE COURT: SO, LET'S GO AHEAD AND FINISH THE
20 EVIDENCE AND HAVE BOTH SIDES REST AND CLOSE, AND THEN I'LL GO
21 GET MY NOTES FROM SATURDAY.

22 MR. CUNNINGHAM: I BELIEVE THE CHARGE LAWYERS
23 ARE COMING NOW.

24 THE COURT: OKAY. LET'S GO AHEAD AND BRING THE
25 JURY BACK IN AND FINISH THE EVIDENCE.

1 ALL RIGHT, MR. WESTBERG, GO AHEAD AND BRING THEM
2 IN.

3 COURT SECURITY OFFICER: ALL RISE.

4 (JURY PRESENT)

5 THE COURT: ALL RIGHT. BE SEATED, PLEASE.

6 I RECEIVED A NOTE FROM ONE OF YOU. THIS SAYS
7 JUROR NUMBER 4, BUT I THINK IT'S MAYBE JUROR NUMBER 5 WHO SENT
8 ME THE NOTE ASKING ABOUT FRIDAY. AS SOON AS WE FINISH HERE,
9 I'M GOING TO VISIT AGAIN WITH THE LAWYERS, AND THEN I'LL --
10 I'LL GET BACK TO YOU ON THAT. I WILL ANSWER YOUR QUESTION
11 BEFORE YOU LEAVE TODAY.

12 JUROR: YEAH, OKAY.

13 THE COURT: OKAY, MR. RENARD, WHO'S YOUR NEXT
14 WITNESS?

15 MR. RENARD: YOUR HONOR, OUR NEXT AND LAST
16 WITNESS IS A 10-MINUTE VIDEO DEPOSITION OF MR. ROBERT KLINE OF
17 RAYTHEON.

18 THE COURT: ALL RIGHT.

19
20 (THE FOLLOWING TESTIMONY OF

21 ROBERT KLINE

22 WAS PRESENTED BY VIDEO)

23 *****

Q. COULD YOU STATE AND SPELL YOUR NAME FOR THE RECORD,

PLEASE.

A. IT'S ROBERT CHARLES KLINE, LAST NAME K-L-I-N-E.

Q. ARE YOU CURRENTLY EMPLOYED BY RAYTHEON?

A. YES.

Q. WAS THERE A TIME PERIOD WHERE RAYTHEON OR ONE OF ITS PREDECESSOR COMPANIES USED THE SERVICES OF INDIGO SYSTEMS TO DESIGN ROICS?

A. I BELIEVE SO, YES.

Q. DO YOU KNOW HOW LONG THAT PERIOD OF TIME RAN THAT INDIGO WAS PROVIDING ROIC SERVICES TO RAYTHEON?

A. NO. I WASN'T INVOLVED IN ANY OF THAT ACTIVITY DIRECTLY.

Q. DO YOU RECALL A TIME WHEN MR. ART LOCKWOOD TOOK OVER MANAGEMENT OF SBRC?

A. YES.

Q. CAN YOU GIVE ME A ROUGH TIME PERIOD ON THAT?

A. I BELIEVE SOMETIME AROUND THE END OF '97, EARLY '98 TIME FRAME.

Q. IS IT FAIR TO SAY, MR. LOCKWOOD, HIS OVERSIGHT OF SBRC WAS ACTUALLY VERY SHORT DURATION?

A. VERY SHORT, YES.

Q. OKAY. DO YOU KNOW WHETHER AT ANY PERIOD OF TIME THE RELATIONSHIP BETWEEN INDIGO AND RAYTHEON COULD BE CHARACTERIZED AS COLLABORATIVE?

A. I BELIEVE SO, YES.

Q. WHAT PERIOD OF TIME DID THAT RUN?

A. I WAS -- I ONLY KNOW OF A SPECIFIC INSTANCE WHEN I WAS INVITED OVER TO INDIGO TO VIEW A DESIGN THAT THEY WERE DOING FOR SBRC.

Q. WHEN WAS THAT?

A. WHEN I WAS STILL AT AMBER; SO --

Q. SO WHAT WOULD BE THE --

A. '97-ISH. SO THAT WOULD BE MY ONLY -- MY ONLY EXAMPLE OF KNOWLEDGE OF A COLLABORATION BETWEEN SBRC AND INDIGO.

Q. AND THE PROJECT THAT INDIGO WAS WORKING ON AT THE TIME WAS AN ROIC PROJECT?

A. YES.

Q. ARE YOU AWARE OF ANY WORK THAT INDIGO PERFORMED FOR RAYTHEON AFTER THE YEAR 2000?

A. NO.

Q. IS THERE ANYTHING --

A. NO.

Q. -- THAT YOU KNOW OF THAT WOULD SUGGEST THAT INDIGO AND RAYTHEON CONTINUE TO HAVE A COLLABORATIVE RELATIONSHIP PAST THE YEAR 2000?

A. NOT THAT I'M AWARE OF, NO.

Q. DO YOU THINK IT'S A TRUE STATEMENT THAT RAYTHEON AND INDIGO HAD A COLLABORATIVE RELATIONSHIP RUNNING UNTIL THE YEAR 2005?

THE WITNESS: I COULDN'T ANSWER THAT.

Q. BUT YOU'RE NOT AWARE --

A. NO.

Q. -- OF ANY FACTS THAT SUGGEST THERE WAS ONE?

A. NO.

Q. YOU WORKED AT AMBER WITH MANY OF THE PEOPLE WHO WENT ON TO BECOME EMPLOYED BY OR EMPLOYED AT INDIGO, CORRECT?

A. YES.

Q. WOULD YOU SAY THAT YOU HAD A FRIENDLY RELATIONSHIP WITH SOME OF THOSE PEOPLE?

A. YES.

Q. DO YOU HAVE ANY RECOLLECTION WHEN YOU FIRST LEARNED THAT INDIGO HAD STARTED TO MAKE ITS OWN DETECTOR PRODUCTS?

A. YEAH. I'M TRYING TO THINK OF THE TIME WHEN -- WE WERE DOING A DESIGN FOR FLIR, WE WERE DOING A READOUT FOR FLIR AND FOR A PRODUCT THAT FLIR WAS MAKING AND THEY DECIDED THAT THEY WERE GOING TO MAKE THAT PRODUCT THEMSELVES IN-HOUSE AND REQUESTED TO BUY SOME OF THE READOUTS SO THAT FLIR COULD PUT THEIR INDIUM ANTIMONIDE ON THOSE READOUTS; SO I WORKED THAT DEAL WITH -- WITH FLIR SO THAT THEY COULD BUY SOME OF THE -- SOME OF THOSE READOUTS TO DO THAT.

Q. WHAT WAS THE TIME PERIOD FOR THAT?

A. I WOULD THINK SOMEWHERE AROUND 2004, MAYBE, SOMETHING LIKE THAT, BUT WE COULD PULL THE CONTRACT RECORDS TO FIND THE EXACT DATE.

Q. DID YOU EVER HAVE CONCERN THAT INDIGO WAS MAKING

DETECTOR PRODUCTS?

A. CONCERN, NO.

Q. DO YOU RECALL IF YOU WERE AWARE WHEN IT WAS ANNOUNCED THAT INDIGO HAD WON THE JSF BID THAT YOU LEARNED THAT INDIGO HAD ENTERED INTO AN AGREEMENT WITH NORTHROP GRUMMAN?

A. YES.

Q. WERE YOU AWARE OF LEARNING AT AROUND THAT TIME THAT NORTHROP GRUMMAN HAD MADE AN INVESTMENT IN INDIGO?

A. ABOUT THE SAME TIME, YES.

Q. WHEN YOU LEARNED ABOUT THE NORTHROP GRUMMAN INVESTMENT IN INDIGO DID YOU LEARN THAT PART OF THAT INVESTMENT WAS INTENDED TO FUND INDIGO'S DEVELOPMENT OF DETECTOR PRODUCTS?

A. YES.

Q. WHEN YOU LEARNED THAT NORTHROP GRUMMAN HAD MADE AN INVESTMENT IN INDIGO TO, IN PART, FUND A DEVELOPMENT OF DETECTOR PRODUCTS, DID YOU EXPRESS ANY CONCERN TO ANYONE ABOUT THAT?

THE WITNESS: NO.

Q. DID YOU FEEL ANY CONCERN ABOUT THAT?

THE WITNESS: NO.

Q. DO YOU RECALL THAT IN FEBRUARY '97 AMBER, THROUGH MR. MCNEELY, SENT A LETTER TO INDIGO REGARDING INDIGO'S HIRING OF EMPLOYEES?

A. THIS IS THE LETTER, YES.

Q. DO YOU RECALL THAT?

A. YES.

Q. OKAY. AND WHO'S MR. MCNEELY?

A. AT THAT TIME HE WAS -- I BELIEVE HE WAS HR, HR PERSON AT AMBER.

Q. DO YOU KNOW IF HE WAS A LAWYER AT THAT TIME?

A. I BELIEVE SO.

Q. DID YOU REPORT TO MR. LOCKWOOD AT AMBER?

A. YES.

Q. DID YOU EVER RECALL HAVING A DISCUSSION WITH MR. LOCKWOOD WHERE HE INDICATED THAT MR. SWANSON HAD RECEIVED A LETTER FROM MR. PARRISH?

A. PROBABLY.

Q. OKAY. DO YOU RECALL LEARNING IN AUGUST 2001 OR THEREABOUTS THAT INDIGO WAS IN THE PROCESS OF CONSTRUCTING A BOLOMETER FAB?

A. YES.

Q. AND THIS MAY SEEM OBVIOUS BUT I NEED TO ASK THE QUESTIONS. DO YOU AGREE THAT A BOLOMETER FABRICATION FACILITY IS QUITE A BIT DIFFERENT THAN ROIC DESIGN WORK?

A. YES.

Q. IS THAT SOMETHING YOU EVER DISCUSSED WITH ANYONE AT RAYTHEON, NAMELY THAT INDIGO WAS BUILDING AN UNCOOLED FAB?

A. YES.

Q. WHO ELSE DID YOU DISCUSS THAT WITH IN OR AROUND AUGUST 2001?

THE WITNESS: MY GUESS IS AT A STAFF MEETING, NEW BUSINESS MEETING, SOMETHING LIKE THAT, IT PROBABLY GOT BROUGHT UP AS JUST COMPETITIVE INTELLIGENCE.

Q. WAS IT COMMON KNOWLEDGE IN AUGUST OF 2001 THAT INDIGO WAS IN THE PROCESS OF BECOMING A COMPETITOR IN THE BOLOMETER AND DETECTOR FABRICATION SPACE?

A. YES.

Q. OKAY. DO YOU RECALL LEARNING IN LATE 2001 THAT INDIGO WAS PURSUING A RELATIONSHIP WITH AUTOLIV?

A. YES.

Q. WAS THAT COMMON KNOWLEDGE WITHIN RAYTHEON?

A. PROBABLY AFTER THIS ARTICLE, YES.

Q. AND THERE'S A REFERENCE IN THE SECOND PARAGRAPH, IT SAYS, "INDIGO IS SUPPLYING AN UNCOOLED INFRARED CAMERA BASED ON A 320 X 120 PIXEL VOX MICROBOLOMETER BEING MADE UNDER LICENSE TO HONEYWELL." IS THAT CONSISTENT WITH YOUR RECOLLECTION, IN NOVEMBER OF 2001, THAT INDIGO WAS MAKING MICROBOLOMETERS, VANADIUM OXIDE MICROBOLOMETERS UNDER LICENSE FROM HONEYWELL?

A. YES.

Q. AND WAS THAT SOMETHING THAT WAS COMMON KNOWLEDGE WITHIN RAYTHEON?

A. YES.

Q. DOES RAYTHEON MAKE VANADIUM OXIDE MICROBOLOMETERS UNDER A HONEYWELL LICENSE?

A. YES.

Q. HOW ABOUT THIS: BASED ON THE ANNOUNCEMENT IN NOVEMBER 2001 THAT INDIGO WAS PURSUING A RELATIONSHIP WITH AUTOLIV AND WAS MAKING VANADIUM OXIDE MICROBOLOMETERS UNDER A HONEYWELL LICENSE, IS THAT FURTHER CONFIRMATION THAT IN NOVEMBER 2001 INDIGO WAS A COMPETITOR OF RAYTHEON?

THE WITNESS: THEY HAD A CAPABILITY TO PROCESS BOLOMETERS. COMPETITIVENESS MEANS YOU'RE GOING AFTER THE SAME TYPE OF PROGRAMS AND I BELIEVE THEIR MODEL WAS MORE RELATED TO COMMERCIAL AND OURS WAS MORE RELATED TO DOD, SO I DON'T KNOW OF ANY CASE WHERE WE ACTUALLY COMPETED HEAD-ON ON AN UNCOOLED PROGRAM.

Q. ALL RIGHT. AND DID YOU KNOW AT THE TIME THAT INDIGO WAS PROVIDING THE DETECTOR COMPONENT FOR LITENING?

A. I -- I DON'T KNOW IF IT -- AT WHAT TIME. EVENTUALLY THEY DID BECAUSE OUR LITENING ORDERS FROM NORTHROP GRUMMAN NO LONGER WERE COMING OUR WAY FOR THE UPGRADE TO LITENING II. I THINK IT WAS LITENING II THAT STARTED USING A 640 X 480 DEVICE, AND THAT WAS WHEN THE AWARD STARTED GOING TO INDIGO VERSUS OUR LEGACY CONTRACT WITH NORTHROP GRUMMAN.

Q. AND YOU RECALL BEING AWARE OF THAT, ROUGHLY, AT THE TIME?

A. YEAH.

Q. SO WHEN INDIGO WON THE LITENING CONTRACT, YOU WERE AWARE, AT LEAST AT THAT TIME FRAME, THAT INDIGO WAS COMPETING WITH RAYTHEON FOR MILITARY --

A. YES.

Q. -- DETECTOR PROJECTS?

A. IN THE HIGH-PERFORMANCE INDIUM ANTIMONIDE AREA, YES.

Q. ALSO REFERRED TO AS INSB?

A. YES, SIR.

Q. DO YOU RECALL AN ANNOUNCEMENT IN OR AROUND MARCH 2002 BY INDIGO THAT IT WAS MAKING FOCAL PLANE ARRAYS FOR INCORPORATION IN ITS NEW OMEGA CAMERA?

A. I KNOW THEY ANNOUNCED IT. HOW, WHERE, WHY, YOU KNOW, I KNOW IT'S ONE OF THOSE -- EITHER AN MSS PAPER OR SPIE OR -- OR SOMETHING LIKE THAT.

Q. DO YOU RECALL THAT IN EARLY 2002 YOU WERE AWARE THAT INDIGO WAS MAKING ITS OWN FOCAL PLANE ARRAYS FOR INTEGRATION IN ITS INFRARED CAMERAS?

A. YES.

Q. OKAY. DO YOU HAVE ANY REASON TO BELIEVE THAT YOU DIDN'T LEARN SOMETIME IN SEPTEMBER 2000 THAT NORTHROP GRUMMAN HAD MADE AN INVESTMENT IN INDIGO TO HELP FACILITATE ITS DEVELOPMENT OF THE DETECTOR MANUFACTURING CAPABILITY?

THE WITNESS: NO. I HAVE NO REASON TO --

Q. WAS THE NORTHROP GRUMMAN INVESTMENT IN INDIGO SOMETHING THAT WAS DISCUSSED WITHIN RAYTHEON?

A. YES.

Q. DO YOU RECALL THAT IT WAS DISCUSSED AT OR AROUND THE TIME THAT IT HAPPENED?

A. YES.

Q. DID THAT DISCUSSION WITHIN RAYTHEON INCLUDE THE FACT THAT INDIGO WOULD BE PURSUING DEVELOPMENT OF ITS OWN DETECTOR CAPABILITIES?

A. YES.

Q. AND WHEN I USED "DETECTOR" IN THAT LAST SENTENCE I MEANT TO INCLUDE FOCAL PLANE ARRAYS. IS THAT CONSISTENT WITH YOUR UNDERSTANDING?

A. YES, SIR.

Q. OKAY. I ALSO MEANT TO INCLUDE MICROBOLOMETERS.

A. YEAH. AS A GENERAL COMMENT AROUND THAT TERM, YES.

Q. OKAY. AND MY EXPLANATION OF MY QUESTION DOESN'T CHANGE YOUR ANSWER?

A. NO, SIR.

(END OF VIDEO)

THE COURT: OKAY.

MR. RENARD: YOUR HONOR, THAT'S THE CONCLUSION OF MR. KLINE'S TESTIMONY.

THE COURT: ALL RIGHT.

MR. RENARD: AND AT THIS POINT IN TIME, THE DEFENSE RESTS.

THE COURT: ALL RIGHT. WHAT SAYS THE PLAINTIFF?

MR. CUNNINGHAM: NO REBUTTAL FROM THE PLAINTIFF, SO PLAINTIFF RESTS AS WELL.

THE COURT: OKAY. ALL RIGHT. LADIES AND GENTLEMEN, BOTH SIDES HAVE RESTED AND CLOSED ON THE PRESENTATION OF THEIR EVIDENCE, SO ALL OF THE EVIDENCE IS NOW BEFORE YOU. THE NEXT STEP IS FOR THE COURT TO PREPARE JURY INSTRUCTIONS. I MAY HAVE MENTIONED TO YOU THAT THE LAWYERS AND I MET LAST SATURDAY HERE AT THE COURTHOUSE. I PRESENTED A DRAFT OF THOSE JURY INSTRUCTIONS TO COUNSEL FOR BOTH SIDES. WE HAD A DISCUSSION ABOUT THAT. THERE WERE SOME DISAGREEMENTS BETWEEN THE TWO SIDES OVER WORDING IN THE COURT'S DRAFT, AND SO WE NEED TO KEEP WORKING ON THAT.

I BELIEVE THAT THE BEST WAY TO APPROACH THIS, HAVING DONE THIS FOR AWHILE, IS RATHER THAN TELL YOU TO COME BACK TOMORROW, TELL YOU TO COME BACK ON FRIDAY, BECAUSE I DON'T WANT YOU TO COME BACK -- AND EVEN IF WE STAY AND WORK TONIGHT, WE MAY NOT RESOLVE EVERYTHING. SO, I THINK THAT IT'S JUST BETTER IF YOU COME BACK FRIDAY MORNING AND IF WE HAVE FINAL ARGUMENTS AT THAT TIME. I WANT TO THANK YOU VERY MUCH FOR YOUR TIME YOU ALREADY SPENT ON THIS CASE AND FOR HOW ATTENTIVE YOU'VE BEEN TO THE PRESENTATION OF THE EVIDENCE. I KNOW THE PARTIES APPRECIATE THAT TOO.

SO, COUNSEL, CAN YOU THINK OF ANYTHING ELSE THAT SHOULD BE DONE BEFORE 9:00? 9:00, MR. ROSE?

MR. ROSE: YOUR HONOR, I WAS JUST GOING TO

SUGGEST 8:30 OR PERHAPS EVEN EARLIER START FRIDAY MORNING, DEPENDING ON THE JURY'S PREFERENCE, WHICH OBVIOUSLY IS MORE IMPORTANT THAN OURS. WE'LL BE PREPARED FIRST THING.

THE COURT: OKAY.

MR. RENARD: IT WOULD BE THE JURY AND THE COURT'S PREFERENCE, YOUR HONOR, FOR US IN TERMS OF TIME.

THE COURT: OKAY.

MR. RENARD: IF YOU WANT TO START EARLIER, WE'RE READY TO START EARLIER.

THE COURT: LADIES AND GENTLEMEN, WHEN WOULD YOU LIKE TO COME BACK ON FRIDAY?

JUROR: WE CAN COME IN EARLIER.

THE COURT: EARLIER THAN THAT?

JUROR: IF NEED BE.

THE COURT: 8:00? NO?

JUROR: 8:30.

THE COURT: IS 8:30 STILL OKAY WITH YOU? ALL RIGHT. OKAY. WE'LL STICK WITH 8:30. SO WE'LL RECESS FOR TODAY, AND I'LL SEE YOU BACK FRIDAY MORNING AT 8:30.

COURT SECURITY OFFICER: ALL RISE.

(JURY NOT PRESENT)

THE COURT: ALL RIGHT. YOU MAY BE SEATED. I GUESS WHAT I NEED TO DO IS GO GET MY NOTES FROM LAST SATURDAY AND THEN SEE WHERE WE STAND ON THE JURY INSTRUCTIONS SO THAT I CAN WORK ON THAT THIS EVENING FOR AT LEAST A LITTLE MORE TODAY

AND THEN HAVE YOU COME BACK TOMORROW. BUT I KIND OF NEED TO KNOW WHAT, IF ANYTHING, YOU'VE AGREED ON OR IF YOU'RE STILL DISCUSSING IT. THEN WE CAN RECESS AND I CAN HAVE YOU COME BACK IN THE MORNING AND TELL ME.

MR. PHILLIPS: YOUR HONOR, I THINK EVEN JUST A SHORT RECESS AS FAR AS -- WE CAN PROBABLY PROVIDE SOME DIRECTIONS PRETTY QUICK.

THE COURT: OKAY.

MR. PHILLIPS: BUT WE PROBABLY NEED TO CORRESPOND WITH THE PEOPLE THAT HAVE BEEN IN THE COURTROOM FOR 15 MINUTES IF THAT'S -- IF THAT WORKS WITH EVERYBODY.

MR. SANFELIPPO: WELL, ONE OF THE ISSUES WE'RE GOING TO HAVE -- IT'S GOING -- THE VERDICT FORM, WE SUBMITTED A TRIAL BRIEF ON IT. THEY SUBMITTED A TRIAL BRIEF --

THE COURT: THE VERDICT FORM?

MR. SANFELIPPO: THE VERDICT FORM IS GOING TO BE THE BIGGEST ISSUE, SO I DON'T KNOW IF WE WANT TO SET SOME TIME ASIDE TODAY TO TALK ABOUT THAT YET. IT MIGHT BE WORTH THE COURT'S TIME. THE INSTRUCTIONS -- WE'RE WORKING ON THE LAST COUPLE DETAILS, BUT THE INSTRUCTIONS THEMSELVES, I THINK WE PRETTY WELL HASHED OUT WITH MAYBE ONE OR TWO ISSUES FOR THE COURT TO DECIDE. BUT BY AND LARGE, THAT'S BEEN HANDLED.

THE COURT: I THINK YOU JUST FILED A BRIEF, MAYBE YESTERDAY OR TODAY, ON THE JURY INSTRUCTION -- ON THE VERDICT FORM?

MR. SANFELIPPO: CORRECT.

THE COURT: I HAVEN'T HAD A CHANCE TO READ THAT, SO I PROBABLY NEED TO LOOK AT THAT.

MR. WILSON: AND WE FILED A RESPONSE ABOUT AN HOUR AGO, SO THE BRIEFING IS NOW COMPLETE ON THAT.

DEPUTY COURT CLERK: WHAT IS YOUR NAME, SIR?

MR. WILSON: OH, BRIAN WILSON.

THE COURT: I'VE GOT THE CARDS. YEAH, BRIAN WILSON AND STEVE SANFELIPPO.

IS 15 MINUTES ENOUGH TIME FOR YOU TO VISIT?

MR. WILSON: I THINK SO.

MR. SANFELIPPO: I THINK SO, YOUR HONOR, AND IT MAY BE WORTH IT, THE VERDICT FORM, THEN TOMORROW, TO TAKE THAT UP FIRST THING IN THE MORNING AND LET YOU READ EVERYTHING THAT I --

THE COURT: YES.

MR. WILSON: OKAY, FAIR ENOUGH. THANK YOU.

THE COURT: HOW LONG IS YOUR BRIEFING? OR DO YOU KNOW?

MR. WILSON: ABOUT 8 OR 9 PAGES EACH.

MR. SANFELIPPO: BOTH.

THE COURT: OKAY. VERY WELL. WE'LL RECESS NOW FOR 15 MINUTES.

(A BREAK WAS TAKEN AT 4:35 P.M.)

THE COURT: JUST KEEP YOUR SEATS, THANK YOU.

LAW CLERK: WE'RE MISSING ONE SIDE.

THE COURT: OKAY. OKAY. FOLLOWING UP ON MR. WILSON'S SUGGESTION, I CAN EITHER -- MS. DURRETT HERE CAN EITHER E-MAIL TO YOU THE DRAFT OF THE JURY INSTRUCTIONS THAT I GAVE YOU ON SATURDAY. I HAVE MADE A FEW OF THE CHANGES THAT YOU ASKED ABOUT, AND YOU'LL SEE THOSE ON THERE, BUT I HAVEN'T YET MOVED THE DEFINITION OF CLEAR AND CONVINCING EVIDENCE BACK TO A LATER PAGE IN THE CHARGE LIKE YOU ASKED, BUT YOU CAN DO THAT.

I DID ADD, IN A COUPLE OF PLACES, THE WORDS "ONE OF MORE" OF 31 TRADE SECRETS RATHER THAN JUST 31 TRADE SECRETS. I DID ADD THE STATUTORY LANGUAGE FROM 3426.1D, THE CALIFORNIA CODE WHICH SAYS WHAT A TRADE SECRET IS. "IT DERIVES ACTUAL OR POTENTIAL INDEPENDENT ECONOMIC VALUE FROM NOT BEING GENERALLY KNOWN TO THE PUBLIC OR TO OTHER PERSONS WHO CAN OBTAIN ECONOMIC VALUE FROM ITS DISCLOSURE OR USE." SO I MADE THAT CHANGE AS WAS REQUESTED LAST SATURDAY.

BUT THEN THERE WERE A NUMBER OF OTHER THINGS THAT YOU BROUGHT TO THE COURT'S ATTENTION, AND THERE WERE REQUESTS THERE, ONE OF WHICH HAS TO DO WITH THE BURDEN OF PROOF ON -- ON THE DISCOVERY RULE ON THE STATUTE OF LIMITATIONS. AND THERE ARE SOME OTHER THINGS. ANYWAY --

MR. SIEBMAN: YOUR HONOR, WE -- WE HAVE A BUNCH OF THAT STUFF WORKED OUT ON THE EQUITABLE --

THE COURT: OKAY. COULD YOU USE THE MIC JUST SO

OUR COURT REPORTER CAN HEAR YOU.

MR. SANFELIPPO: WE HAVE ALMOST ALL OF THAT WORKED OUT, YOUR HONOR. THERE ARE ONLY A FEW MORE --

THE COURT: OKAY.

MR. SANFELIPPO: -- INSTRUCTION ISSUES.

THE COURT: DO YOU WANT MY DRAFT ON A THUMB DRIVE? IF SO, DO YOU HAVE A THUMB DRIVE I CAN PUT IT ON, OR DO YOU WANT ME TO E-MAIL IT TO YOU?

MR. WILSON: I THINK WE PREFER E-MAIL BECAUSE WE HAVE A NEW SECURITY SYSTEM WHICH WILL AUTOMATICALLY ENCRYPT ANYTHING ON A THUMB DRIVE.

THE COURT: IT WILL WHAT?

MR. WILSON: IF I PUT A THUMB DRIVE IN MY COMPUTER, EVERYTHING IS AUTOMATICALLY ENCRYPTED, SO E-MAIL IS EASIER FOR US.

MR. SANFELIPPO: E-MAIL IS FINE.

THE COURT: I HAVE YOUR E-MAIL, MR. WILSON, AND I HAVE MR. SANFELIPPO'S. IS IT OKAY IF WE E-MAIL IT TO THE TWO OF YOU, AND YOU CAN DISTRIBUTE IT FROM THERE?

MR. SANFELIPPO: YES, YOUR HONOR.

MR. SIEBMAN: YOUR HONOR, WHAT WE MIGHT DO IS WE CAN INCORPORATE THE AGREEMENTS THAT WE HAVE IN THERE, WHICH ARE SUBSTANTIAL, AND THEN WE CAN E-MAIL IT BACK TO YOU TO DECIDE THE ISSUES THAT WE HAVEN'T REACHED AGREEMENT ON.

THE COURT: THAT WILL BE FINE.

MR. SANFELIPPO: AND I BELIEVE THERE'S ONLY TWO ISSUES WE HAVEN'T REACHED AGREEMENT ON, AND I'D LIKE TO REACH IT NOW SO WHEN WE SEND YOU THE INSTRUCTIONS, YOU HAVE WHAT WE PROPOSE TO BE THE FINAL INSTRUCTIONS.

THE COURT: OKAY.

MR. SANFELIPPO: AND RIGHT NOW, THE ONLY THING I'M SEEING IS THEIR REQUESTED INSTRUCTION NUMBER 11, AND WE -- YOUR HONOR, IN LIGHT OF THE TESTIMONY TODAY, WE HAVE TO REURGE OUR INSTRUCTION THAT WE TENDERED, INSTRUCTION NUMBER 4 TO INSTRUCT THE JURY THAT EVEN IF BY THEMSELVES THE PIECES ARE AVAILABLE IN THE PUBLIC, IT CAN STILL BE A TRADE SECRET, AND THAT WAS OUR INSTRUCTION NUMBER 4, AND IN LIGHT OF -- OF EVERYTHING THE JURY HEARD TODAY, IT'S JUST ESSENTIAL TO GIVE THAT INSTRUCTION.

THE COURT: OKAY. THAT WAS YOUR INSTRUCTION NUMBER 4?

MR. SANFELIPPO: IT'S PART OF THE SECRECY REQUIREMENT. IT'S OUR INSTRUCTION NUMBER 4. THE COURT IS GIVING THE FIRST PART OF THAT INSTRUCTION THAT IS THE PATTERN. IT'S THE SECOND PARAGRAPH OF THAT INSTRUCTION THAT WE WOULD REQUEST AND IF THE COURT -- IF I MAY APPROACH, I CAN -- I WILL SHOW YOU WHERE IT IS.

THE COURT: OKAY. CAN YOU TELL ME, DO YOU HAVE A COPY OF MY DRAFT THAT I GAVE YOU ON SATURDAY BY ANY CHANCE?

MR. SANFELIPPO: I DO.

THE COURT: DO YOU KNOW WHERE IN THE DRAFT?

MR. SANFELIPPO: I DO. IT'S PAGE 7, THAT
SECRECY REQUIREMENT IN THE MIDDLE OF THE PAGE. PARAGRAPH
STARTS, "THE SECRECY REQUIRED TO PROVE."

THE COURT: OKAY. I SEE THAT.

OKAY. APPARENTLY, THE FIRST PART OF THE SECRECY
SUBMISSION THAT YOU TENDERED TO THE COURT, MR. SANFELIPPO, IS A
PART OF THE CALIFORNIA CODE, RIGHT?

MR. SANFELIPPO: IT'S A PART OF THE CALIFORNIA
PATTERN INSTRUCTIONS, CORRECT.

THE COURT: DOES IT COME FROM THE CODE, THOUGH?

MR. WILSON: IT DOES. IT'S MODIFIED FROM THE
CODE.

THE COURT: 4403?

MR. SANFELIPPO: MODIFIED FROM THE CODE.

THE COURT: YEAH. YEAH. IT'S 4403 OF THE
JUDICIAL COUNSEL OF CALIFORNIA CIVIL JURY INSTRUCTIONS. OKAY.
SO, YOU'RE ASKING FOR THIS EXTRA PARAGRAPH?

MR. SANFELIPPO: CORRECT. AND WE TENDERED THE
COURT THE CASE OF SPRING DESIGN ON SATURDAY, SPRING DESIGN V.
BARNESNOBLE.COM.

THE COURT: OKAY.

MR. SANFELIPPO: WHICH FULLY SUPPORTS THE
PROVISION, AND AS THE COURT IS WELL AWARE, PATTERN INSTRUCTIONS
ARE THE BEGINNING OF THE INSTRUCTION, BUT ON ANY GIVEN CASE, IT

SOMETIMES IS IMPROPER -- SOMETIMES PROPER AND SOMETIMES NECESSARY TO SUBMIT ADDITIONAL INSTRUCTIONS, AND THIS IS ONE OF THOSE CASES WHERE IT IS NECESSARY. GIVEN THE DEFENSE THAT'S BEEN PUT OUT, YOUR HONOR, THIS INSTRUCTION IS IMPERATIVE IN ORDER TO GUIDE THE JURY IN THEIR DELIBERATIONS.

MR. WILSON: AND ARGUE ON THIS, YOUR HONOR, WAS THAT ON SATURDAY, WE DISCUSSED THIS AT LENGTH, AND OUR MAIN ARGUMENT WAS THAT THIS WASN'T PART OF THE PATTERN JURY INSTRUCTIONS, AND THERE WAS A REASON THAT IT'S NOT PART OF THE PATTERN JURY INSTRUCTIONS, WHICH IS THAT IT'S NOT NECESSARY. WE DID AGREE TO A MODIFICATION, TO ADD A LITTLE FURTHER DEFINITION OF THE SECRECY REQUIREMENT TO ADDRESS SOME OF THE CONCERNS THAT WERE RAISED BY THE PLAINTIFFS, AND AS FAR AS WE'RE CONCERNED, THAT DOES THE JOB. THAT ADDRESSES ANY OF THEIR CONCERNS. THEY CAN MAKE ALL OF THE SAME ARGUMENTS ABOUT COMBINATIONS BEING PUBLIC OR NOT PUBLIC OR WHATEVER IT IS.

THE COURT: WHAT -- WHAT LANGUAGE DID YOU AGREE TO?

MR. WILSON: WE -- IT WAS THE LANGUAGE THAT THE COURT JUST REFERRED TO ABOUT ADDING SOMETHING, AN ADDITIONAL DEFINITION OF THE SECRECY REQUIREMENT IN THE DEFINITION OF THE TRADE SECRET. WE TOOK THE STATUTORY LANGUAGE AND ADDED IT TO THAT -- TO THE JURY INSTRUCTION.

THE COURT: OH, JUST THE DEFINITION?

MR. WILSON: JUST THE DEFINITION, EXACTLY. TO

GIVE THEM THE --

THE COURT: I INCLUDED BOTH. WERE YOU TALKING ABOUT WHAT I CHANGED AND INCLUDED IN HERE ON PAGE 7?

MR. WILSON: THAT'S RIGHT. AND THAT WAS ADDED IN PART TO ADDRESS THE CONCERNS THAT THEY WOULD HAVE A COMPLETE INSTRUCTION.

MR. SANFELIPPO: AND THAT ADDRESSED THE PROBLEM WITH THE DEFINITION OF TRADE SECRET, BUT IN LIGHT OF THE DEFENSE THEY'VE CONTINUED TO PUT UP AND ESPECIALLY THE FIASCO TODAY, THIS PORTION OF THE INSTRUCTION IS ABSOLUTELY ESSENTIAL, AND SUPPORTED BY THE LAW, AND IT SHOULD GO IN.

THE COURT: WHICH FIASCO ARE YOU REFERRING TO?

MR. SANFELIPPO: THE FIGHT OVER WHETHER OR NOT HE'S GOING TO BE ABLE TO TESTIFY ABOUT THE PARTS BEING IN THE PUBLIC, THAT IT'S A -- HIS OPINION THAT IT'S STILL A TRADE SECRET, AND -- IT'S BEEN THE DEFENSE PUT ON FOR THREE WEEKS NOW, YOUR HONOR. THEY NEED TO UNDERSTAND THE FACT THAT EVEN IF ALL OF THESE PIECES CAN BE FOUND SOMEWHERE IN SOME CORNER OF THE INTERNET, UNLESS YOU BRING THEM ALL TOGETHER AND YOU KNOW THAT PROCESS, IT'S NOT A TRADE SECRET. THEY NEED THAT INSTRUCTION TO UNDERSTAND THE -- HOW TO ANSWER THE QUESTIONS.

MR. WILSON: AND OUR VIEW OF THAT IS THAT IT WAS VERY CAPABLY EXPLAINED AND CAN BE VERY -- JUST NOW BY COUNSEL. IT CAN BE VERY CAPABLY EXPLAINED IN CLOSING. IT DOESN'T NEED TO -- THERE'S NO JUSTIFICATION FOR MUCKING UP AND CHANGING THE

JURY INSTRUCTIONS, WHICH FOLLOW AND CAPTURE THE LAW.

MR. SANFELIPPO: THEY ARE GOING TO BE TOLD THAT THESE JURY INSTRUCTIONS FROM YOU ARE THE LAW.

THE COURT: OKAY. LET ME READ YOUR SPRING DESIGN CASE. AND THEN YOU ALSO CITED O2 MICRO AND SKINMEDICA. DID YOU GIVE ME THOSE CASES TOO?

MR. SANFELIPPO: I BELIEVE I DID. I DON'T HAVE COPIES OF THOSE TWO WITH ME TODAY, YOUR HONOR. I BELIEVE I GAVE YOU COPIES SATURDAY.

THE COURT: YOU GAVE ME SPRING DESIGN AND SKINMEDICA. OKAY. GIVE ME JUST A MOMENT.

MR. SANFELIPPO: SURE.

THE COURT: DID YOU CHECK SPRING DESIGN TO SEE IF THERE'S ANY SUBSEQUENT HISTORY ON THAT?

MR. SANFELIPPO: TO MY KNOWLEDGE, IT'S STILL GOOD LAW. WE KEY CITED IT. STILL -- I DON'T THINK THAT THERE'S ANY ARGUMENT THAT IT IS THE PROPER STATEMENT OF THE LAW.

THE COURT: OKAY. IT LOOKS LIKE THE FEDERAL DISTRICT COURT IN THE NORTHERN DISTRICT OF CALIFORNIA IN THE SPRING DESIGN VS. BARNES AND NOBLE CASE CITED TO CALIFORNIA STATE COURT OPINIONS AND AS WELL AS OTHER NORTHERN DISTRICT OF CALIFORNIA OPINIONS.

OKAY. ALL RIGHT. MR. WILSON, WHAT MR. SANFELIPPO SUBMITS IS RIGHT OUT OF THE SPRING DESIGN CASE

AND RIGHT OUT OF CASES -- OTHER CASES.

MR. WILSON: WELL, WHAT --

DEPUTY COURT CLERK: YOU MIGHT WANT TO TRY
ANOTHER --

THE COURT: WHAT IS IT, BONNIE?

DEPUTY COURT CLERK: ME MIGHT WANT TO TRY
ANOTHER MIC.

MR. WILSON: I CAN ARGUE FROM THE PODIUM, THAT'S
JUST FINE. THOSE ARE THREE FEDERAL CASES, ONE OF WHICH IS
UNREPORTED. AND PERHAPS THE INSTRUCTIONS WERE APPROPRIATE
GIVEN THE SPECIFIC FACTS IN THOSE CASES BUT PERHAPS NOT. ARGUE
IS IN THIS CASE THAT THERE'S NOTHING IN THIS CASE THAT REQUIRES
IT. WHAT WE'RE PROPOSING IS A STANDARD JURY INSTRUCTION
APPROVED BY THE JUDICIAL COUNSEL OF CALIFORNIA, AND THESE
PATTERN INSTRUCTIONS WERE REVISED AND PUBLISHED AFTER THESE
THREE CASES CAME OUT SO THE CASES WERE TAKEN INTO ACCOUNT.

THIS ISN'T -- IF THESE CASES WERE BELIEVED TO BE
CORRECT, THEY WOULD HAVE BEEN -- THIS INSTRUCTION WOULD HAVE
BEEN INCORPORATED INTO THE FORM INSTRUCTIONS AND IT WAS NOT.

THE COURT: OKAY. I UNDERSTAND THE ARGUMENT.
THESE CASES ARE CONSISTENT WITH THE FIFTH CIRCUIT'S
METALLURGICAL INDUSTRY'S CASE AT 790 F.2ND 1195 WHERE THE FIFTH
CIRCUIT SAID, "A TRADE SECRET CAN EXIST IN A COMBINATION OF
CHARACTERISTICS AND COMPONENTS, EACH OF WHICH BY ITSELF IS IN
THE PUBLIC DOMAIN, BUT THE UNIFIED PROCESS, DESIGN, AND

OPERATION OF WHICH IN UNIQUE COMBINATION AFFORDS A COMPETITIVE ADVANTAGE AND IS A PROTECTABLE SECRET."

SO, APPARENTLY, THE LAW IN THE NINTH CIRCUIT IS SIMILAR. I MEAN, I'M READING THOSE AS BEING CONSISTENT, FIFTH CIRCUIT LAW AND THESE CALIFORNIA CASES.

MR. WILSON: I BELIEVE THAT FIFTH CIRCUIT -- THE FIFTH CIRCUIT CASE WAS PROBABLY DECIDED BEFORE THE UNIFORM ACT WAS ADOPTED.

THE COURT: 1986. I DON'T KNOW WHEN THE ACT WAS ADOPTED.

MR. WILSON: LAST YEAR, I BELIEVE. WITHIN THE LAST 2 YEARS.

THE COURT: OH.

MR. WILSON: SO IT WAS WELL BEFORE THE ACT. SO THERE'S TWO DIFFERENT QUESTIONS, THOUGH. ONE IS WHAT IS THE LAW, AND WHAT CAN THEY ARGUE. ANOTHER IS, WHAT DO YOU NEED TO INSTRUCT THE JURY. AND ARGUE THAT THE ADDED INSTRUCTION THEY'RE ASKING FOR IS ADDING ADDITIONAL CONCEPTS OF NOVELTY, WHICH ARE INAPPROPRIATE AND OUT OF PLACE IN A TRADE SECRET CONTEXT. THAT'S A PATENT CONTEXT.

AND THEN IT GETS INTO NOTIONS OF COMBINATIONS. THEY'RE GOING TO DRAG THE JURY DOWN INTO A DISCUSSION OF ISSUES THAT HAVEN'T BEEN DISCUSSED IN THE EVIDENCE. THEY'RE FREE TO ARGUE AS THEY -- AS THEY SHOULD, I'M SURE THEY'LL FIND THIS APPROPRIATE, WHATEVER THEY WANT ABOUT COMBINATIONS. BUT THE

QUESTION IS, DO WE THEN GIVE THE JURY AN INSTRUCTION WHICH ISN'T ONE OF THE FORM INSTRUCTIONS. THEY'RE TALKING ABOUT NOVELTY, WHICH IS A PART OF THE TRADE SECRET STATUTE. THEY HAVE THE DEFINITION. THEY HAVE THE CONSIDERATIONS THAT THEY SHOULD TAKE INTO ACCOUNT WHEN THEY'RE DECIDING WHETHER OR NOT TRADE SECRETS WERE MISAPPROPRIATED.

THE COURT: SPRING DESIGN IS A TRADE SECRET CASE, IS IT NOT?

MR. SANFELIPPO: YES, IT IS.

MR. WILSON: BUT IT'S AN UNPUBLISHED CASE IN A FEDERAL COURT AND ISN'T PRECEDENTIAL FOR ANYTHING, ANY PURPOSES.

THE COURT: WELL, THEY -- THE JUDGE WHO WROTE THIS OPINION, JUDGE WEIR, CITES TO CALIFORNIA, LOOKS LIKE, APPEALS COURT CASES, AND I DON'T KNOW THE STRUCTURE IN THE CALIFORNIA STATE COURT SYSTEM, BUT IT CITES TO ABBOTT RUBBER COMPANY VS. SEAQUEST, CALIFORNIA COURT OF APPEALS, 1991. THAT'S NOT ACTUALLY THE PART THAT YOU'RE ASKING FOR, MR. SANFELIPPO?

MR. SANFELIPPO: NO. THE PART I'M ASKING FOR CITES TO A 2006 PUBLISHED NORTHERN DISTRICT OF CALIFORNIA CASE.

THE COURT: UH-HUH. YEAH. WHAT THE -- WHAT THE SPRING DESIGN COURT SAID IS SIMILAR TO WHAT THE FIFTH CIRCUIT HAS SAID. I ACTUALLY THINK FIFTH CIRCUIT'S EXPLANATION IS A LITTLE BIT CLEARER.

MR. SANFELIPPO: AND WE WOULD HAVE NO PROBLEM USING THAT LANGUAGE.

THE COURT: YEAH, THAT'S A CALIFORNIA -- IT'S GOVERNED BY CALIFORNIA LAW IS THE ONLY PROBLEM. THIS CASE IS.

MR. WILSON: AND OUR BELIEF IS THAT ALL OF THOSE PROPOSED INSTRUCTIONS GO A STEP TOO FAR BECAUSE THE JURY ALREADY HAS WHAT IT NEEDS TO DECIDE. THIS SUGGESTS SOME KIND OF A -- THIS ADDED INSTRUCTION SUGGESTS SOME KIND OF A BURDEN SHIFTING THAT'S GOING ON THAT'S IMPROPER. SO THE JURY WILL HAVE THE DEFINITION OF A TRADE SECRET. THEY'LL HAVE LENGTHY DESCRIPTIONS OF HOW MISAPPROPRIATION OCCURRED BY ACQUISITION AND BY USE, BY DISCLOSURE. THEY HAVE EVERYTHING THEY NEED. THEY DON'T NEED ADDITIONAL, CONFUSING INSTRUCTION.

THE COURT: OKAY. MR. WILSON, I APPRECIATE YOUR ARGUMENT. I AGREE WITH MR. SANFELIPPO THAT IN THIS CASE, THIS IS AN IMPORTANT INSTRUCTION. IT APPARENTLY IS CONSISTENT WITH CALIFORNIA LAW. THIS CASE IS GOVERNED BY CALIFORNIA LAW, AT LEAST FOR THE TRADE SECRET MISAPPROPRIATION CLAIMS, SO I'M GOING TO GRANT THE REQUEST AND INCLUDE THAT PARAGRAPH.

MR. WILSON: WELL, CAN I SUGGEST TO YOUR HONOR BEFORE WE MOVE ON TO OUR -- ANY OTHER REMAINING ISSUES THAT IT WOULD BE MORE -- IF THE COURT'S INCLINED TO -- TO OFFER SOME KIND OF AN INSTRUCTION ALONG THESE LINES, THAT REALLY THE FIRST SENTENCE IS MUCH CLOSER TO ACCURATELY STATING THE LAW THAN THE REMAINDER OF THE INSTRUCTION. THAT WOULD BE ENOUGH TO JUST SAY

THAT IN CERTAIN CASES, COMBINATIONS OF PUBLIC INFORMATION CAN BECOME A TRADE SECRET.

BUT GOING ON TO TALK ABOUT WHAT DOESN'T MATTER, ABOUT APPORTIONMENT OF A TRADE SECRET AND SO ON IS MORE THAN IS NECESSARY. SO WHY NOT JUST SAY IF A COMBINATION OF INFORMATION OTHERWISE MEETS THE STANDARD, THEN THAT COULD BE A TRADE SECRET. AND DON'T -- DON'T BURDEN THE INSTRUCTION WITH THE REMAINING EXPLANATION WHICH COULD BE CONFUSING AND MISLEADING.

BECAUSE IN ESSENCE, WHAT THE -- WHAT THAT WILL ALLOW THEM TO TRY TO DO IS ARGUE THE JURY INSTRUCTION IS SUPPORTING THEIR ARGUMENT AND MAKING THEIR ARGUMENT. AND THE JURY INSTRUCTION'S JUST SUPPOSED TO STATE THE LAW.

MR. SANFELIPPO: THE SECOND PART --

THE COURT: WELL, THIS APPARENTLY IS THE LAW IN CALIFORNIA.

MR. WILSON: IT WAS USED IN ONE CASE AND FOLLOWED BY -- ONE PUBLISHED DISTRICT COURT CASE. AND IT WAS NOT INCORPORATED, AS WE SAID, IN THE INSTRUCTIONS WHEN THEY WERE ADVISED IN DECEMBER OF 2013.

THE COURT: WHAT IS THE HISTORY OF THE O2 MICRO INTERN LIMITED CASE? THAT WAS A 2006 CASE?

MR. WILSON: YEAH, IT'S INTERNATIONAL. THERE IS A LENGTHY AND CONVOLUTED HISTORY TO THAT CASE, BUT NONE OF IT INVOLVES THIS PARTICULAR PART OF IT.

MR. SANFELIPPO: BECAUSE THIS PARTICULAR PART IS

THE BEDROCK PRINCIPLE OF TRADE SECRET LAW.

MR. WILSON: THAT IS ABSOLUTELY NOT TRUE. THE 02 MICRO CASE IS PRIMARILY KNOWN FOR ALL THE PATENT ISSUES THAT WERE DEALT WITH.

MR. SANFELIPPO: THESE PRINCIPLES THAT WE CITE TO ARE BEDROCK PRINCIPLE OF TRADE SECRET LAW.

MR. WILSON: IN THE 02 MICRO CASE, THE TRADE SECRET CLAIMS WERE THE TAIL WAGGING THE DOG. IT WAS A SERIES OF PATENT CASES THAT RESULTED, ACTUALLY, IN SANCTIONS AND ALL KINDS OF OTHER THINGS THAT -- TRADE SECRET CASE WAS A TAG-ALONG, WHICH PROBABLY HELPS EXPLAIN WHY THIS ADDITIONAL INSTRUCTION WAS NOT INCORPORATED IN THE FORM INSTRUCTED -- IN THE FORM INSTRUCTIONS LATER ON. BECAUSE IT'S AN OUTLIER.

THE COURT: BUT IT SEEMS TO BE CONSISTENT WITH WHAT'S SAID ABOVE. "MOREOVER, COMBINATIONS OF PUBLIC INFORMATION FROM A VARIETY OF DIFFERENT SOURCES WHEN COMBINED IN A NOVEL WAY CAN BE A TRADE SECRET. IT DOES NOT MATTER IF A PORTION OF THE TRADE SECRET IS GENERALLY KNOWN," WHICH IS EXACTLY WHAT THE FIFTH CIRCUIT SAYS, AND LET'S SEE. WHERE DID THAT -- I DON'T HAVE A METALLURGICAL CASE.

CAN YOU PRINT IT OFF?

MR. WILSON: THE OTHER ISSUE, YOUR HONOR --

THE COURT: WAIT A MINUTE. 790 F.2 ND 1195. I ASSUME IT'S FROM TEXAS, LOUISIANA, OR MISSISSIPPI, SO -- YOU KNOW, THAT -- THAT STATEMENT, THAT SECOND PART OF YOUR

PROPOSAL, MR. SANFELIPPO, IS JUST RIGHT IN LINE WITH METALLURGICAL INDUSTRIES HERE.

MR. WILSON: WELL, IF I MAY, YOUR HONOR --

THE COURT: I DON'T SEE ANYTHING WRONG WITH IT.

MR. SANFELIPPO: THERE IS NOTHING WRONG WITH IT.

MR. WILSON: LET ME EXPLAIN ONE MORE THING BEFORE IT GETS OFF TRACK. ALL OF THESE HAVE TO BE CONSIDERED WITHIN THE CONTEXT OF THE CASE. COMBINATIONS ARE TYPICALLY RECIPES OR FORMULAS. THESE ARE THE TRADE SECRETS, THIS THING THE JURY'S BEEN LOOKING AT THIS BOARD FOR THREE WEEKS. WHAT ARE THE COMBINATIONS? WHAT ARE THE INDIVIDUAL PORTIONS OF THE TRADE SECRETS? THAT'S A WHOLE SET OF INFORMATION THAT DOESN'T MAKE SENSE IN THE CONTEXT OF THE WAY THE TRADE SECRETS HAVE BEEN PRESENTED IN THIS CASE AS I UNDERSTAND IT.

MR. SANFELIPPO: AND THEY HAVE BEEN TOLD THAT PIECES OF EVERY ONE OF THOSE PROCESSES ARE AVAILABLE OUT THERE IN THE PUBLIC SOMEWHERE.

THE COURT: NO, I'M GOING APPROVE THE LANGUAGE.

MR. SANFELIPPO: THANK YOU.

THE COURT: WHAT'S THE NEXT ISSUE?

MR. WILSON: THAT -- THAT MAY BE A -- UNLESS WE'RE UNABLE TO --

MR. PHILLIPS: THEY HAVEN'T --

MR. WILSON: THAT MAY BE -- UNLESS WE'RE UNABLE TO AGREE ON LANGUAGE FOR AN ADDITIONAL INSTRUCTION THAT WE'RE

ABOUT TO -- I THINK WE HAVE AGREEMENT ON IT, BUT WE HAVEN'T PUT PEN TO PAPER YET.

THE COURT: OKAY.

MR. SANFELIPPO: BY AND LARGE, I THINK THAT'S IT ON THE INSTRUCTIONS.

MR. WILSON: WHAT I WOULD PROPOSE ON OUR REMAINING ISSUE IS IF THE COURT WILL GIVE US MAYBE 15 MINUTES TO TRY TO HAMMER OUT THAT LANGUAGE, WE CAN COME BACK, EITHER THIS AFTERNOON OR -- WELL --

THE COURT: DO YOU WANT ME TO JUST E-MAIL IT TO YOU, YOU MAKE THE CHANGE, YOU CLEAN IT UP HOWEVER YOU AGREED TO IT, AND INCLUDE THIS LANGUAGE, AND THEN I'LL SEE YOU TOMORROW MORNING AND I'LL READ YOUR BRIEFS TONIGHT ON THE -- ON THE VERDICT FORM?

MR. SANFELIPPO: OKAY. WHAT TIME WOULD YOU LIKE US TOMORROW MORNING, YOUR HONOR?

THE COURT: LET'S MAKE IT 9:00. LET'S MAKE IT 9:00.

MR. SANFELIPPO: FINE.

THE COURT: IS THAT OKAY? OKAY.

MR. SANFELIPPO: THANK YOU, YOUR HONOR.

THE COURT: OKAY. I'LL SEE YOU TOMORROW AT 9:00. MS. DURRETT WILL E-MAIL WHAT I HAVE SO FAR FOR YOU.

MR. SANFELIPPO: THANK YOU.

COURT SECURITY OFFICER: ALL RISE.

THE COURT: THANK YOU, YOU'RE EXCUSED.

MR. CUNNINGHAM: THANK YOU, YOUR HONOR.

THE COURT: SAY, COUNSEL, I TELL YOU WHAT, SO THAT I HAVE TIME TO TALK IN THE MORNING ABOUT THIS, BECAUSE I'M GOING TO READ THIS TONIGHT, MS. DURRETT WILL READ IT, SHE MAY GO ON HOME. I NEED TIME TO VISIT WITH HER. LET'S MAKE IT 10:00.

MR. SANFELIPPO: FINE, YOUR HONOR.

MR. CUNNINGHAM: AS YOU WISH.

(PROCEEDINGS CONCLUDED AT 5:24 P.M.)

COURT REPORTER'S CERTIFICATION

I HEREBY CERTIFY THAT ON THIS DATE, NOVEMBER 19, 2014, THE FOREGOING IS A CORRECT TRANSCRIPT FROM THE RECORD OF PROCEEDINGS.

/S

BRYNNA K. MCGEE, CSR-RPR-CRR